14-09-07

Bob Cooper's

SEPTEMBER 15 2007

SatFACTS

MONTHLY

Reporting on "The World" of satellite television in the Pacific and Asia

IN THIS ISSUE

Chinasat 6B: Huff, Puff or Real?

City-Wide WiFi: Down the tubes?

Piracy: Intriguing tale of lies & deceit

✓ Latest Programmer News
✓ Latest Hardware News
✓ D2 will do WHAT?
✓ Observer Reports

Vol. 14 ◆ No. 157
Price Per Copy:
NZ$10/A$11/US$/Euro8

Pick up signals from Australia by inverting the dish.

More options Sep 4, 6:18 am **alt.satellite.tv.europe**

zii kell View profile

I read this on a web site selling LNBs (satcure) and almost peed myself. Rather funny.

"Ultimate LNB

Just 0.01dB noise figure and a massive gain means that this LNB is able to turbo charge an ordinary Sky mini-dish to give 200% effective signal strength and 100% signal quality!

Note: make sure that your cable is at least 15 metres in length. If it's too short you can overload the Digibox tuner with the massive signal. (The signal can be reduced by placing a damp rag over the LNB.)

In addition, the cross-polar rejection figure of 180dB means this LNB gives outstanding performance in fringe reception areas outside the UK.

And right now we're offering this LNB for just £199 (worth £300) so buy now while stocks last!

Pick up signals from Australia by inverting the dish

Quad output version available from April 1st.

This is total bullshit of course. There is no magic substitute for the correct size of dish. The very BEST LNB for fringe-area reception is the quad-output **Invacom** (which will not fit on a Sky minidish - indeed there would be no point in fitting it to a minidish because a good LNB is not needed on a dish smaller than 1.5m in diameter)."

They do have a sense of humour. Tee hee.
http://www.satcure.co.uk/accs/page1.htm#AP8-TW
http://www.satcure.co.uk/no_lnb.htm

freeview

The first approved freeview receiver is here

Freeview™ certified

DVB compliant

Video: YPbPr & Composite outputs

Audio: RCA, SPDIK

Freeview™ 8-day programming guide

Regionalisation feature©

Max. 1000 channels

Widescreen capable

Enabled for Interactive TV

Easy installation and Setup

ZINWELL

For more information on the ZMX-7500 receiver
email wsa@zinwellaustralia.com.au

SatFACTS MONTHLY

ISSN 1174-0779

is published 12 times each year (on or about the 15th of each month) by Far North Cablevision, Ltd. This publication is dedicated to the premise that as we enter the 21st century, ancient 20th century notions concerning borders and boundaries no longer define a person's horizon. In the air, all around you, are microwave signals carrying messages of entertainment, information and education. These messages are available to anyone willing to install appropriate receiving equipment and, where applicable, pay a monthly or annual fee to receive the content of these messages in the privacy of their own home. Welcome to the 21st century - a world without borders, a world without boundaries.

Editor/Publisher
Robert B. Cooper (ZL4AAA)
Office Manager
Gay V. Cooper (ZL1GG)

Reaching SatFACTS
Tel: 64-9-406-0651
Fax: 64-9-406-1083
Mail: PO Box 330
Mangonui. Far North
0442 New Zealand
Email -Skyking@clear.net.nz
http://www .apsattv.com
www.bobcooper.tv

Subscription Rates
Within NZ: $70 p/y
Australia: AV-COMM Pty Ltd.
PO Box 225. Brookvale.
N.S.W. 2100
61-2-9939-4377
Elsewhere: US$75p/y
All copies sent airmail post.

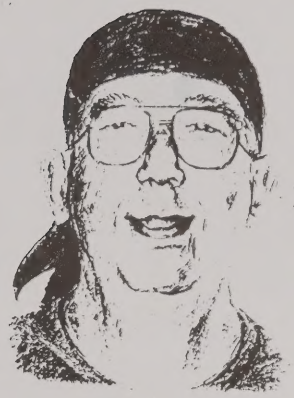
The fine print
SatFACTS Copyright 2007 by Robert B. Cooper; any form of copying is a violation of our international copyrights. Advertising rate sheet available upon request.

Now year fourteen!

Saving Freeview from oblivion

Sales of Freeview satellite systems has fallen off to near zero although TVNZ's Browning assures us 20,000 new STBs have been sold since May's launch.

Freeview-UK is a terrestrial service delivering 37 TV channels to homes previously offered BSkyB, cable or getting by with a maximum of 5 analogue channels. A digital STB for the UK costs as little as NZ$100. Our Freeview presently offers 6 channels (4 full-time) with two additional October 1 (one full-time) and for a home lacking a pre-existing Sky dish, all-up costs approaching $500.



September 15, 2007

The NZ Herald (August 28th) asked readers, "*Do you want to see the exclusive Freeview channels on Sky TV?*" That would be TVNZ6 and Stratos - both launching by early October. Industry educationalist Paul Norris (Christchurch Polytech) believes, "*Freeview could be heading for a PR disaster.*"

Freeview-UK has the support of government that draws on ownership of the BBC and a 85 year history of pride in their national broadcaster. Legislation provides a mechanism for Freeview-UK to carry without charge to viewers such services as BSkyB's Sky News and Sky Sports News. There are lessons here for New Zealand.

And policy questions. Let's begin with poor spectrum management. Freeview and Sky carry TVOne, TV2, TV3, C4 and Maori (plus National and Concert radio). Of these, TVOne, TV2 and Maori are free to air within Sky while TV3 and C4 require a Sky subscription. One software change directed at Sky receivers would send subscribers to the Freeview package and allow Sky to reclaim the present transponder space being wasted by double-transmitting TVOne, TV2, Maori. The same software instruction could also send subscribers to TV3 and C4 (and National/Concert) on Freeview. At this point Sky could continue to promote their system provides all of these channels but not actually have to route any of these services through Sky equipment. The five 'spaces' vacated by these services could then be reprogrammed with more productive to Sky services - more movies, more sport, more whatever.

How might this happen? Enter government which to date has stayed totally away from the nitty-gritty detail of what must happen to prevent Freeview from becoming "*a PR disaster*" as Paul Norris warns. Sky "wins" if they no longer have to devote valuable transponder space to the five identified channels. But how does Freeview win?

Around a negotiating table chaired by a savvy and determined government appointed negotiator (we suggest Wayne Brown), Freeview gets the following: Prime TV without Freeview's demand they pay for the space. That ends the "...but Freeview does not have Prime!" defence current non-buyers of a Freeview system are so fond of reciting. That seems like another "win" for Sky because now they would have six TV channels to do something new with. So how does Freeview benefit?

Following the UK model, Sky transfers two of their existing "basic" channels to Freeview. Such as? How about "SKY Sport Highlights" and "SKY News NZ" which immediately frees up two more channel spaces for other use by Sky. These two are more or less harmless and would be moving signboards encouraging non-subscribers (Freeview watchers) to reconsider Sky. Who pays for this Freeview space? Sky because they also gain two more 'spaces' for more of whatever; (total now 8 newly available spaces).

Isn't this still very one-sided in favour of Sky? It is but let's consider that without some "benevolence" on their part, present day Freeview management has zero chance of saving this one. Over the negotiating table they could also arm wrestle for moving TAB to Freeview (although this one is much more complicated). Sky loses nothing (their subscribers will still have access through software updates to all of the existing channels), gains access to TVNZ6 and Stratos (plus more to come). And Freeview lives because if it dies, the entire country loses. One guess who will be blamed for this!

In Volume 14 ◆ Number 157

D2 is for what? - p. 4, 6B at 115.5E - An opportunity? -p. 7,
America's lawsuit against piracy -p.12, OOPS. WiFi Problems -p. 21; Dish Installers -p.29

Departments

Programmer/Programming -p.2; Hardware/Equipment Update -p. 4; SatFACTS Digital Watch -p. 23;
Supplemental Data -p. 26; With The Observers -p. 27

-On the cover -

The world is filled with charlatans who will take your money!

L
E
T
T
E
R
S

China's 6B opportunity

"I wish to purchase a C-Band prime focus 90cm satellite dish for test purposes here in Christchurch (NZ). Can you recommend any USA mail-order stores where I could locate this item? I will test receiving Chinasat 6B. The dBw for North Island is 36 while possibly 37 dBw in South Island. In Christchurch, applying for a permit to erect antenna that exceeds 90cm is very, very difficult with fees that begin at $400 and go up. If tests with a 90cm antenna prove successful, this would benefit every Chinese who misses news from home. I have consulted with my friend in China who is a professor in the satellite world for many years. He said I will need a low noise LNB and a very low threshold receiver. Can you help me?"

Francis Chang, NZ

Many (analogue) years ago when Palapa C2M (113E) was first operating (at full power), a NZ distributor of Paraclipse antennas toured the country with a 1.5m hyrdo formed reflector demonstrating reception in what we believed at the time was a 35-36 dBw footprint and it worked on several transponders (notably France's Pacific service). The drop from 1.5 to 90 presents a prime focus challenge - a C-band feed is typically 16cm across and in a prime focus antenna it sits directly in the middle of the dish creating a 'blind spot' through which the reflector cannot 'see'. A 1.5 loses 11% of its most effective surface area to this shielding; a 90cm would lose 18% of the reflector turning it into a 74cm reflector surface. One way around this is to use an offset fed dish which places the sizeable feed out of the satellite-to-reflector pathway. Alas, we know of no offset designed C-band feeds available in the Pacific and attempting to use a standard prime focus feed on an offset design reflector is a bad choice; the offset fed feed is designed to 'see' a non-circular reflector surface that sits 'above' the feed whereas a prime feed is designed to be dead centre and looking straight at a circular reflector. The efficiency of a prime feed on an offset reflector is poor - not a good trade when you need every dB fraction you can muster. Perhaps it would be more prudent to petition the local council to allow 1.2/1.5m dishes under circumstances where the dish is hidden from neighbours.

PROGRAMMER PROGRAMMING PROMOTION UPDATE

SEPTEMBER 15, 2007

September 30th; TV6 (from TVNZ - the day-part programming scheduled to appeal from the toddlers through adults as the day matures) and Stratos (the special Freeview service created by Triangle TV [Auckland/Wellington]) debuts. Actually, the 'official' launch of Stratos is 12:30PM with an official ceremony involving a Minister of Government pushing a button - October 3rd. From the 30th to the 3rd, you will find a Triangle TV's (terrestrial) on air service if you reload 12.483H manually (after TVNZ6 begins). Freeview certified receivers will not find it until the official sign-on at 12:30PM on the 3rd. Call it "selective addressing" being first-time used - yet another of the many still 'hidden' features of "approved" receivers.

Freeview doldrums? TVNZ's Steve Browning has told the media he believes there are 44,000 Freeview capable installations in the country which he breaks down to "20,000 existing before Freeview, 24,000 new since May (2007)." Dealer/installers report sales have all but stopped, as this note indicates: "We sold and installed 92 receivers, virtually all from Hills, through May-June and July. It all but quit by mid-August." This is a marketing challenge and there has to date been virtually none by Freeview. Our (above) correspondent adds, "I promote, advertise, call on people and their response is almost always the same as if reading from a script. After I tell them what channels are available, "But I receive (all) (most) of these on my present antenna. Why would I spend ($500) for this?" The majority of those who have bought appear to be poorly located for terrestrial reception; that explains the 'second 20,000' sold from May onward. It does not explain nor validate the claim of an additional 20,000 in prior operation. See Coop's Comment, p. 1.

Gamma-hack? A number of Australian/Pacific (web) sites report the failure of the much publicised 'Gamma Cards' since our last report (SF#156). There appears to be two different 'families' of Gamma out there. An Australian sourced card apparently is vulnerable to Mindport data stream corrections while an 'offshore' sourced card, self-limiting to 256 identical (cloned) cards per 'address', has to date escaped Mindport correction. Sources report someone in Australia web-posted the access numbers for a specific card which others then used to create their own home-created Gamma-Clones. Duhh. *It is but a matter of time.*

Solar alignment. Before most of you read this, the sun will be crossing the equator alignment with the Clarke Orbit Belt creating 'solar noise outage' for all of us. The period of signal loss will vary from a few minutes to tens of minutes, a function of dish size and date with due-north satellites affected around noon local time, those to west later in the day. Do not panic!

(USA) **Western SBE2007** Reno, Nevada Oct 10-13 exhibitors include 'FTA' firms (p. 12, here): http://www.acteva.com/booking.cfm?bevaid=122716.

UNAOHM

a family of measurement success for 70 years

Laceys.tv™

42 BrunelRd. Seaford VIC 3198
Tel:(03) 9776 9222 Fax:9776 9766
e-mail: info@laceys.tv www.laceys.tv
Branches in Sydney, Ulverstone and Woolgoolga
New Zealand: Hills Industries (09) 274 6509

From the top line EP 3000 EVO to the economical handheld S22, C30 and T40, Unaohm's claim to fame is sound measurement principles. Now supported in the Pacific by Laceys.tv's Factory Trained Repair and Cal centre, there are good reasons to make your next meter an Unaohm!

Stratos October 1

"Thank you for your nice comments in SatFACTS 156. Our present target date to be available on Freeview is 3 October. We continue to run Stratos 'in house' as if we were already on air which allows us to fine tune the final appearance before actually being on Freeview. One correction - the Henry T comment (p. 27) that 'Ex-BCL Kordia is somehow involved in financing this' is totally incorrect - Triangle is funding this on our own and there is no government money advanced for this as much as we would have liked to see some of the government funding for the digital changeover come our way."

Jim Blackman, Triangle TV Ltd.

Henry T's comment (Soapbox) may have originated from a Kordia press release in which they tried to take some credit for 'assisting Stratos to come to air on Freeview'.

Strong is 'strong'

"Reference the SatFACTS review of Strong's 4564X (SF#156), I have the Strong 4658x. This is a beautiful receiver with a near perfect front end. Using this receiver on InSat 2E, I can now load every single wide and zone beam transponder. I have never owned a receiver that could do this previously and while the 2E signal is significantly 'polarisation tilted' because it is so far to the west, I have not been forced to readjust the LNBf to correct for this. This is one heaps-better receiver and I congratulate Strong for bringing it to market."

DL, NSW

Mindport Answering

"My take on SF#156 report on Gamma cards is this. There will develop two kinds of Gamma activity. The first will be hobbyists who simply want to give-it-ago and they will share card numbers with some posted on Internet for wide 'experimental' use. Some of these hobby cards will end up in commerce and because of the web-postings Mindport will locate and shut them down. The second group will be dead serious pirate businessmen most likely not in Australia because of the serious laws now in effect there. Mindport will continue forcing web sites (such as Gammacards.tk) to shut down but that will have little or no effect on the serious commercial guys."

AT, San Diego, California

You hit it - site shut down September 4th.

HARDWARE EQUIPMENT PARTS UPDATE

September 15, 2007

D2? Our source for what follows is NOT Optus but in our judgement it accurately represents the status of the next launch of the D series of birds.

1/ *D2 is identical to D1*, it is built and ready for launch save for some final testing. We say "same" - hopefully someone has finally figured out which cable connects to what polarisation (antenna)!

2/ *By surveying the presently operating B3* (152E), C1 (156E) and D1 (160E) it appears Optus has all but run out of 'spare bandwidth' which correlates to desirable footprints. In other words, they need new transponder space today, not tomorrow.

a/ As a subset of this, D2 will not improve this situation by itself.

3/ *Optus does have a clear plan* for future satellites and it extends beyond the D series now operational (D1) or scheduled (D2, D3).

4/ *Optus had a scare* with the B series reliability and the D1 polarisation mistake; they would like the corporate comfort that comes from having 'a back-up spare' in orbit. A fully built satellite sitting on the ground is always 90-180 days away from being functional. An in-orbit spare, on the other hand, is only days away from replacing a failed or malfunctioning bird.

5/ *Moreover*, a fully built satellite earns no money for Optus by sitting in an expensive climate controlled storage facility.

Therefore 'the plan':

a/ *D1 will stay at 160E* with 3 banks of 8 transponders of which 1 bank is Australia boresighted, a second is New Zealand and the third is switchable (at reduced eirp levels) between Australia and NZ.

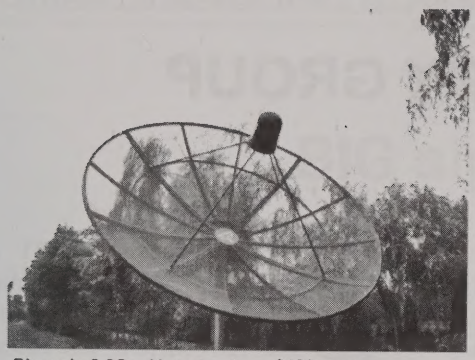
b/ *D "Next"* (or D2 as it will be known when launched) was originally called D1R (R for replacement) and has identical technical specs to D1 (see "2a" above); 3 x 8.

1/ *D2 operates* (as does D1) in what is known as the **FSS** Ku band; 12.25 - 12.75 GHz downlink.

c/ *D3 was to be D2 until* the problems with D1 polarisation were identified. D3 will have two separate Ku bands on board: 12.25 - 12.75 (FSS) and a lower band (**BSS**) at 11.7 to 12.2 GHz. FSS will have 8 transponders covering New Zealand and some quantity (more than 8, not more than 24) BSS covering Australia with some number switchable to NZ as well; BSS (11.7 - 12.2). D3 will co-locate with C1 (156E). FSS (12.25 - 12.75) cannot be used for Australia as long as C1 is functional but there is some logic in having that capability on D3 should C1 curl up and die unexpectedly. By the same reasoning, those C1 signals which presently reach NZ (although at greatly reduced levels from Australia) will be potential interference sources for D3's NZ boresighted transmitters in the FSS band. SatFACTS readers report usable (if not powerful) C1 signals on a handful of transponders with dishes in the 1.5m region - certainly a potential problem if and when there really is a D3 functional.

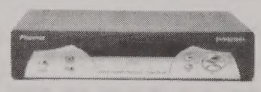
Phoenix Technology Group

Satellite Equipment & Accessories One Stop Supermarket



Phoenix 2.35m Motorized Extra Heavy Duty Mesh

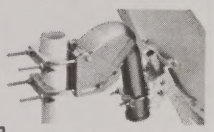
$180 each
Buy 10 get one Free!



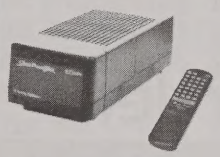
Phoenix 2800A $90
The Best FTA Available
Quantity price available

Dreamax DT470 $90ea
Irdeto 2 Rec min 5 buy
Perfect For Selectv

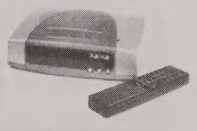
Zinwell 15K
LNBF $24/each
for box of 24



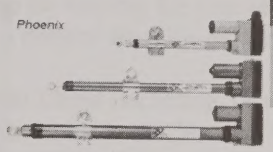
H-H Motor $85ea



SuperJack EZ2000
Positioner $50/each

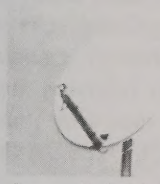


Star V Box II
DiSEqC1.2 Positioner
$45 each *how low is this*



Actuator from 12' standard duty to 36' heavy duty
From $35/each to $220/each

RG6 305m
Dual shield
$70/box
Quad shield
$80/box



Folding Arm Dish
best dish for caravan kits
35cm $80 each Inc Case
64cm $25 each Wide Beam
78cm $44 each Aurora
88cm $55 each Hi Gain
Made in Denmark

Local Antennas Full range
In stock Now From $25 10 buy

Caravan Digital Ant	$80	PBI C+Ku band LNBF	$65
Facia Mounts TV 1.8m	$12	Zinwell C band LNBF	$28
65cm KU offset dish	$22	Zinwell Prime Focus KU Dual Output	$60
75cm KU offset dish	$30	Star C band LNBF	$18
90cm KU offset dish	$35	MTI one cable solution LNBF	$45
One leg gutter mount	$18	Satellite finder	$20
Two leg gutter mount	$22	RG6 striper	$15
Tin roof mount	$20	RG6/RG11 crimper	$20
Wall mount	$14	Angle meter	$35
19" LCD Bracket	$50	Compass High Quality	$10
2.3m SD mesh dish	$130	RG 6 Crimp Connector 100 pack	$25
3m SD mesh dish	$340	22K switch	$10
3m HD mesh dish	$380	Two way DiSEqC switch	$10
3" 2.5m galvanised pole	$30	Four way DiSEqC switch	$12
3" 3m galvanised pole	$36	Satellite 2 way splitter	$2.50
3" 3.5m galvanised pole	$42	Satellite 5 Way split	$4.50
3" Triangle Pole for C band dish	$50	Digiair Terrestrial hand held meter	$350
Speaker Stand for caravan use Ku dish	$40	Star LED Easy to use Satellite Meter	$75

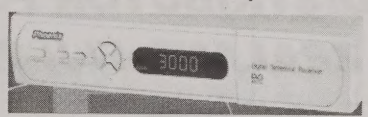
Kingray

Kingray MHW-34F
Inc Power supply
$55.00 *crazy*

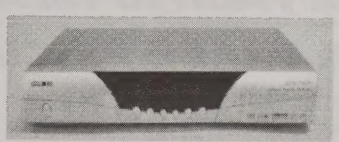
This Months Specials

Phoenix

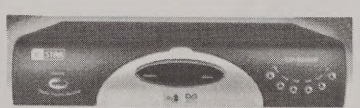
Phoenix JT-3300D
Digital Terrestrial Receiver
$68.00 10 buy

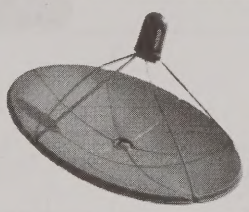


DVR 9200 Twin Tuner HDD Sat Receiver As tested by Coop $490



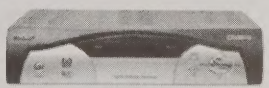
New Star 2880B FTA Receiver
Blind Scan! $70 ea Min 5 Buy





Latest Release
Phoenix 1.8m
Solid 6 Piece Dish
C & KU Band
Polar Mount
$135.00
Yes You Can Motorise

COSHIP



Coship 5110D
Licenced Irdeto 2 Receiver
Auto Rescan of channels when Powered off
No problems activating cards
No software problems, use a box you can trust!
Best for Selectv/Aurora

$115.00ea
Min 5 Buy
$135.00 ea 1 Buy

SF-3000
Meter Now Instock
Call for our low price

Great Freight Deals To NZ

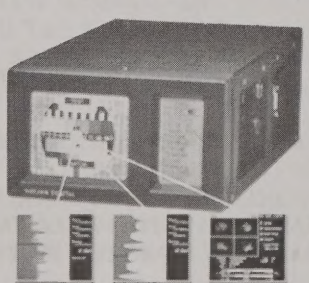
Irdeto Cam Version 2.26
$70.00 Trade
Price breaks in place for larger Wholesale Qty's

Phoenix 65cm
KU Dish
How low can they go?

$22.00ea

SATLOOK Digital NIT
$1395

Satellite-receiver 920-2150 MHz
• Spectrum-analyzer with expanded spectrum
• Digital BER, QPSK and S/N-ratio
• 4.5" B/W monitor for PAL/NTSC/SECAM
• Tuneable sound 5.5 - 8.5 MHz
• LNB voltage 13/18v, 22 kHz tone switch
• DiSEqC control (1.0, 1.1, 1.2)
• KU- and C-band (normal/inverted video)
• 99 memory-positions for spectrum pictures
• Satellite identification
• Symbol rate 1-30 Msymb/s
• RS 232 for PC connection
• Built in, rechargeable battery
• Only 5 kg complete with carrying-case



selectv
authorised dealer

Selectv Card & STB
Package $77.00 ea
Trade and Dealers
only on this package

Highest Gain Televes
UHF Deep Fringe
Antennas
Instock Now

Two New Dealers:
New Dealers Welcome

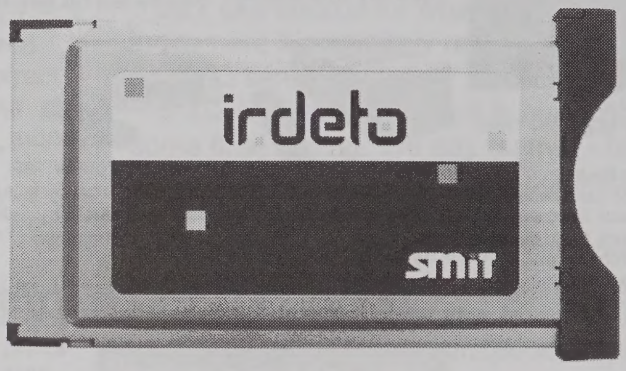
Satellite House 794 High St Thornbury Vic 03 9480 1885
SatPlus QLD Unit 12 /22-26 Cesna Dr Caboolture QLD 07 5495 7674

Website: www.phoenixtelevision.com.au

Phone: (03) 9553 3399 Fax: (03) 9553 3393
E-mail: sales@ptv.com.au

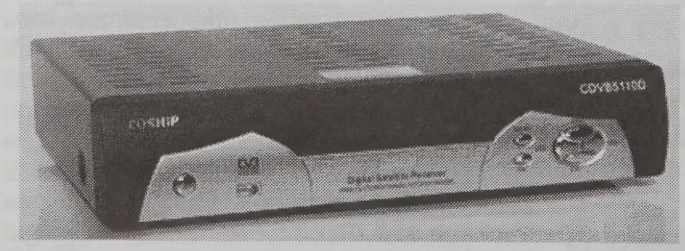
PHOENIX TECHNOLOGY GROUP

EXCLUSIVE



IRDETO CAM
DISTRIBUTOR FOR
AUSTRALIA-NEW ZEALAND-FIJI-PAPUA NEW GUINEA
&
THE PACIFIC ISLANDS
WHOLESALE & TRADE PRICING STRUCTURE
AVAILABLE

COSHIP



COSHIP 5110D IRDETO 2 SATELLITE RECEIVER

LICENCED IRDETO SOFTWARE
AUTO LOADING & UPDATE
OVER THE AIR UPGRADING
GLOBECAST RECOMMENDED
COMES PRE-LOADED WITH PAY TV &
EASY PIN NUMBER SET UP
AURORA TRANSPONDER DETAILS
EASY CARD ACTIVATION

AUTO SET-UP FOR: SELECTV,
OPTUS AURORA, UBI,
WORLD MEDIA, AUSTAR, TVBJ, HTR,
SIGRAM, VISION ASIA, TV POLONIA,
ABS-CBN, CONNECT TV, TV PLUS

Phoenix®

21/148 CHESTERVILLE RD MOORABBIN
VICTORIA AUSTRALIA 3189
PH +61 3 95533399 FAX +61 3 95533393
E-mail: sales@phoenixtelevision.com.au
Website: www.phoenixtelevision.com.au
FOR YOUR NEAREST DEALER CALL

dba

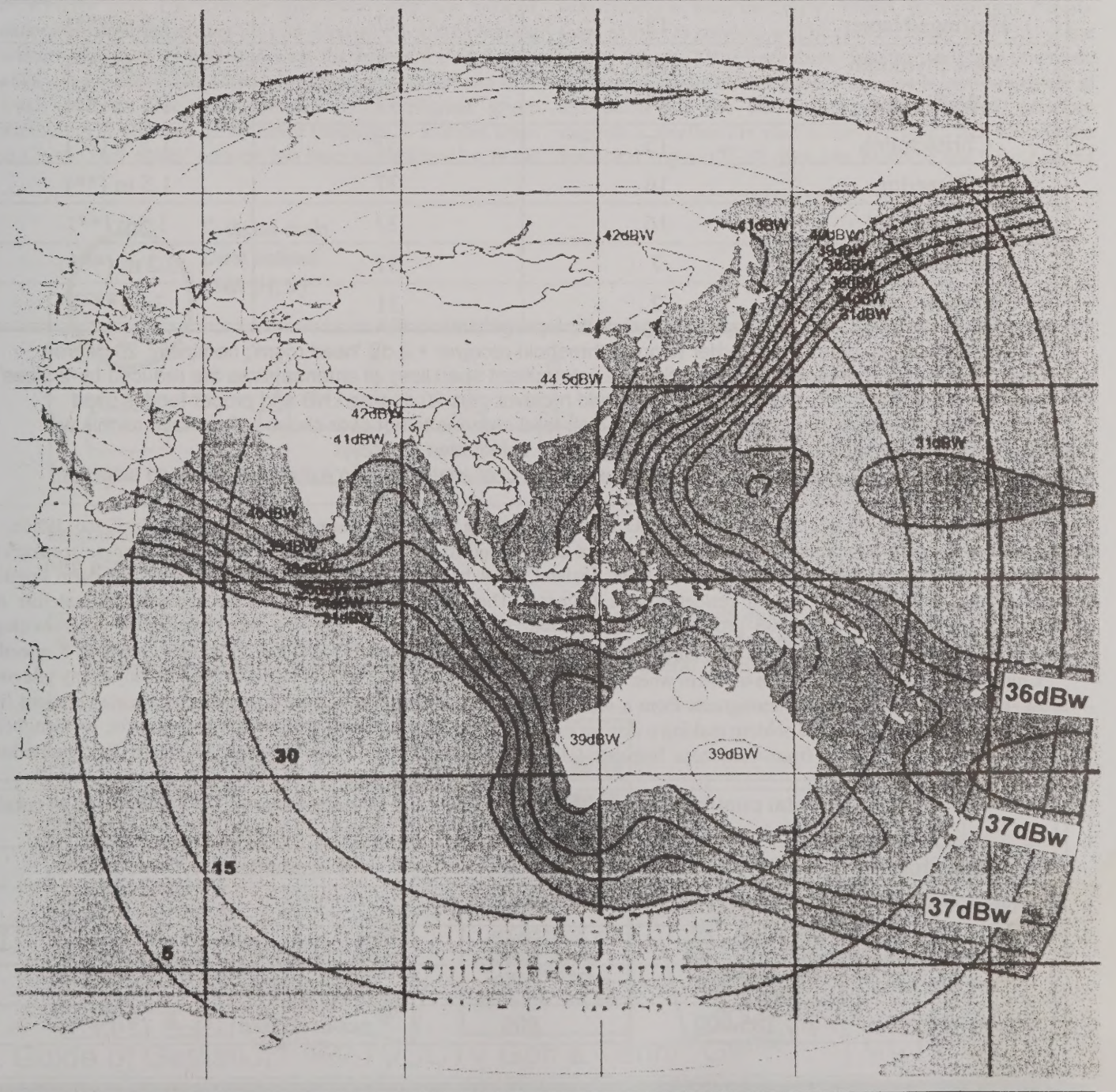
Perhaps - A sizeable new FTA market

Chinasat 6B offers BIG signals, 150+ channels

There is a new level of enthusiasm in the Pacific home satellite world, traceable to the newly available programming on Chinasat 6B, located at 115.5 east. C-band antennas, 1.5 metres and smaller, with state-of-art LNB and feed (or LNBF) are producing a tremendous range currently totalling 15X television channels and 16X radio services. The 'bad news' is the programming is largely (but not totally) in China's national language (Mandarin). Yes, that might eliminate the bulk of your potential customers or perhaps what it really does is define who your market is. As a recent correspondent wrote to SatFACTS, "*...this will benefit every Chinese who is homesick and missing regular news from the home country.*" Of which how many might there be waiting for you to advise them of this bountiful new 'rain shower' from the heavens above?

Scaling the market

The immigration from China (including Taiwan, PRC, Hong Kong, and Macau) dates back to the mid 1800s; as gold mining labourers in Australia and New Zealand, field workers in (Western) Samoa when it was under German control and Fiji during periods when workers from India were in temporary short supply. The Chinese origin immigrants stayed relatively minor until the 1980s when more aggressive policies



Location	Look Angle	dBw forecast	Antenna size (*)
Brisbane	44	38	1.5 m
Sydney	36	39	1.1 m
Melbourne	36	39	1.1 m
Tasmania	33	38	1.5 m
Adelaide	38	38-39	1.1-1.5m
Alice Springs	59	38	1.5m
Perth	55	38	1.5m
Fiji	18	36	1.7 m
New Caledonia	27	37	1.5 m
Kaitaia	18	37	1.5 m (**)
Whangarei	17	37	1.5 m (**)
Auckland/Hamilton	16	37	1.5 m (**)
Hastings/Napier	13	37	1.5 m (**)
New Plymouth	16	37	1.5 m (**)
Wellington	14	37	1.5 m (**)
Christchurch	15	37	1.5 m (**)
Dunedin	16	37	1.5 m (**)
Invercargill	16	37	1.5m (**)
Chathams	7	37	2.2 m (***)
Western Samoa	7	31	3m (***)

* / Antenna size assumes 6 dB carrier to noise threshold receiver + 2 dB 'head room'; nominally, 20 degree C-band LNB. For 'threshold' level reception (i.e. intermittent sparklies) all antenna sizes are reduced by '2 sizes' - i.e. 1.5m becomes 1.1m assuming low threshold receiver plus 20 degree LNB and proper feed is used.
** / Look angles below 20 degrees will require dish feed antenna to not over-shoot dish surface as this will dramatically raise earth noise pickup destroying C/NR; select feed carefully!
*** / At these low look angles, earth noise will become a challenge requiring extra care with feed selection.

on the part of many Pacific Island governments shifted to actively encouraging immigration. Some of the numbers have shown phenomenal growth in recent decades; New Zealand, for example, saw a 40.5% rise in residents with Chinese ancestors between 2001 and 2006 growing this population base to the fifth largest ethnic body in the country.

"Chinese" is unfortunately a 'catch-all' term when it comes to most census reports, including immigrants from a variety of countries such as Malaysia, and seldom making a distinction to separate Mandarin speaking from Cantonese linguists (Hong Kong, Taiwan, Macau and Malaysia). Until the 1980s, the majority of 'Chinese' immigrants were Cantonese speakers but that has now significantly tipped towards Mandarin linguists. There is a challenge here for the unsuspecting satellite dish seller as virtually all of the new Chinasat 6B programming is in fact intended for Mandarin (Hokkien) speakers. Remember, 6B is an official consolidation of PRC's many-many television broadcasters. That is actually good news because stations from southern (Guandong) to northern (Manchuria, or Dongbei as most westerners refuse to call it) means that individually

Country	Total population	With Chinese ancestors	% born outside present country	Chinese % of total population
Australia	20,000,000	669,890	not available	3.35%
New Zealand	4,050,000	149,000	37%	3.63%
Fiji	853,445	6,100	not available	0.07%
New Caledonia	240,000	2,050	not available	0.85%
(Western) Samoa	185,000	800	not available	0.04%

geographic stations are all there in one 'satellite place' (yes, a few will also be cropping up on Sinosat 3 at 125 east).

Identify your market

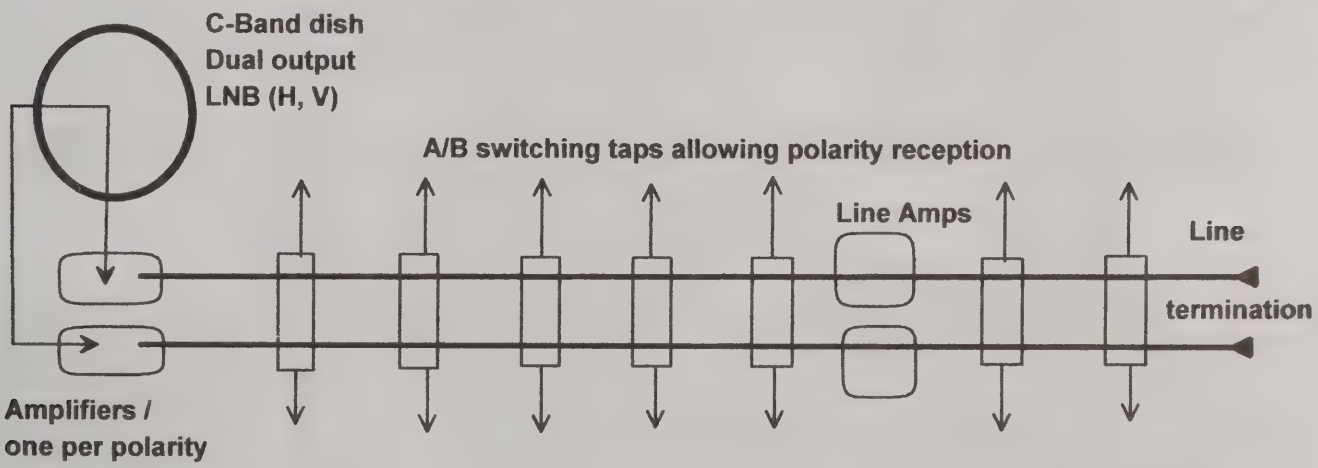
The 'market' is of course anyone who will purchase a dish system from you, focused on 115.5E. The table on p. 8 lists the relevant numbers (look angle = elevation above a flat earth horizon pointing at 115.5E; dBw indicates the anticipated signal level while antenna size suggests the reflector diameter that should produce results for your location. The potential client list should include schools, businesses operated by Chinese, homes and apartment blocks. According to census data, in Australia and New Zealand Chinese immigrants tend to bunch together in neighbourhoods and one antenna - multiple receivers located inside individual housing units should be potential money spinners. Landlords who own such multiple dwelling premises should be good prospects as this allows them to offer for an extra monthly fee a 'cable connection' to Chinese language programming and access to a FTA receiver: 155 television and 166 radio stations in their native 'home' language should improve occupancy.

FTA or CA? The Chinese have made very few 'official' announcements concerning 6B (nor Sinosat 3 at 125E) leaving western observers to postulate what the near and longer term plans are for both birds. Chinese origin terrestrial uplinks have from time to time been 'pirated' by a religious group attempting to send anti-government messages to selected areas in China. This 'piracy' concern has been a consideration in 6B and Sino-3 and is mentioned in the early releases explaining the two new satellites. If they control the birds internally, rather than relying upon an outside supplier (such as AsiaSat) to remotely shut off a transponder that has however briefly fallen into the 'wrong hands', it is at least a measure of control not presently available.

China has created its own home-grown conditional access (encryption) system after trialling several systems from the west (Irdeto as used on CCTV, 3880H, for example). Clearly some of the 6B services will be (some already are) 'CA' as the market for pay-TV is huge there. Whether they plan to encode many or all of the 6B and Sino-3 services is pure conjecture at this point. But the 6B footprint (page 7, here) certainly suggests a satellite-life plan to serve regions well beyond the 'mainland' region (36-37 dBw into Australia and New Zealand

All heading for China hosting 2008 Olympics

Perhaps you saw the Discovery channel's special production created in China to promote the extensive preparations China's CCTV has underway to provide "unparalleled visual opportunities" during the forthcoming Olympic games. Massive is the only descriptive word; China sees this event as their entry into the modern world. As a matter of trivia, the first 'Olympic' games were staged in 776 BC as a 'truce activity' between two warring Greek tribes in a festival honouring their common God Zeus.



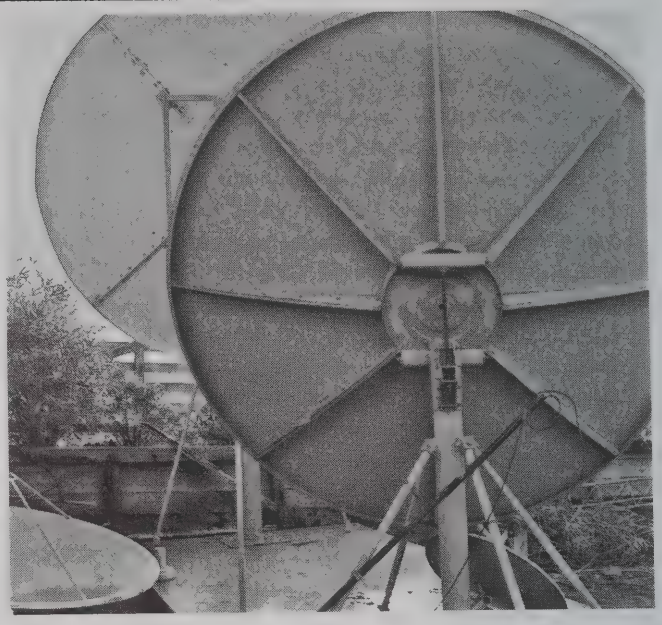
Above - conceptual approach to one antenna serving multiple apartment/housing units feeding 3.4-4.2 GHz through L-band (950-1750) (RG-11 cable) distribution system granting each viewing location independent selection of either polarity (from Chinasat 6B). Below - several of 155 services now available.

are rather obviously deliberate). So will those who rush out to acquire a system based upon today's FTA services be disappointed if a significant number do encrypt? The answer is obvious.

Just how strong is it?

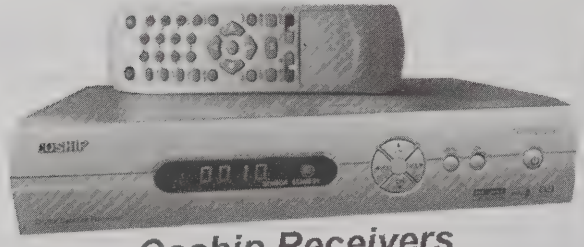
Essentially, anyone within Australia or New Zealand with a 2m or larger is reporting lock on most if not all transponders (and those not 'locking' need to carefully inspect their C-band hardware and correct for pointing errors). Garry Cratt (Av-Comm Sydney) reports the transponders average 10 dB CNR on a 2.4m dish (a quality STB should show at least intermittent lock at 6 dB CNR); the map forecasts 39 dBw to Sydney. Garry further notes "This directly compares with PAS-8 CNR on the same dish which originally forecast 37 dBw here - who knows what it may be today but unlikely more than 37)."

Working backwards from Garry's report and our own partially blocked dish tests (photo and caption to right) it may be that 1.5m (table, page 8) is in fact light - too small - which bears further close monitoring. As Garry also notes, "When the first users fired up on 6B, most of the signals were stronger than they were a week later - the result of more transponders coming on line and the 'power level police' in China starting to clamp down on 'hitting the satellite too hard' (i.e. too much uplink power)." There was the usual rush of early reports when 6B began transmitting with only a couple of transponders hot - that would have been at a time when the uplinkers were also hot, suggesting that as the satellite's permanent loading has subsequently increased, some of the initial observations need to be revisited. SatFACTS encourages additional reports for future updates. This *might be* an important new source for Chinese programming - when the evidence is all in.



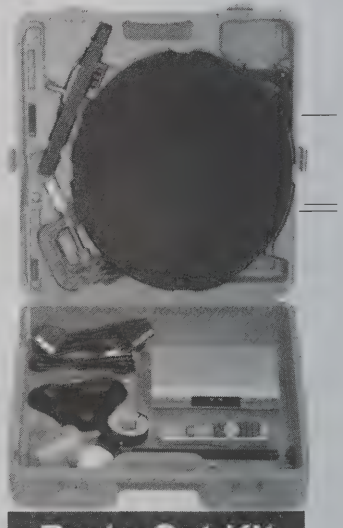
At SatFACTS we initially pressed a 3m Patriot dish into 6B service mindful that 60% of its surface area is totally blocked by a 3.7m (effectively, a 1.8m dish). What we found was approximately half of the transponders operating were above 8 dB CNR with significant variations between transponders (on both poles); at least one (3.980V; CCTV x 8) was hitting 14 dB even on this badly blocked dish.

Highest Quality - Biggest Freeview Seller!

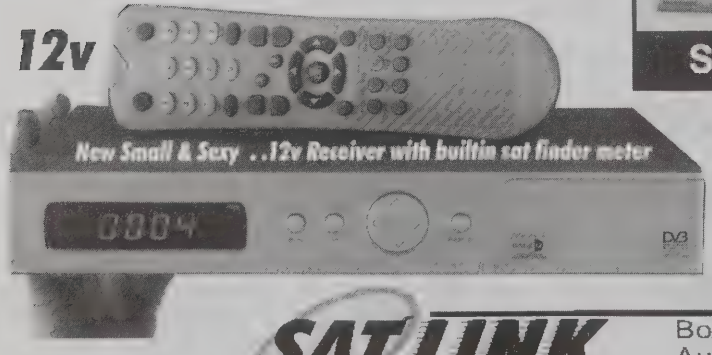


Coship Receivers
Pretuned for FreeView
@ $90+ to dealers

Satellite Kits
- Receiver - LNB
- Remote - Meter
- Dish - Mount



Porta-Sat Kit
- 12v Receiver - LNB
- Remote - Meter
- Dish - Mount



SAT LINK NEW ZEALAND LTD

Box 60428 Titirangi
Auckland New Zealand
www.satlinknz.co.nz

Tel: +64 27 493 7025
Fax: +64 9 814 9447
www.freeviewnz.com

KAON
www.kaonmedia.net

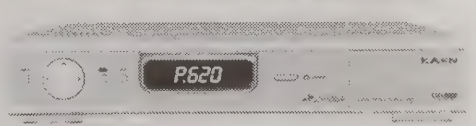
KAON FEVER
THERE IS NO CURE

DIGITAL TELEVISION RECEIVERS

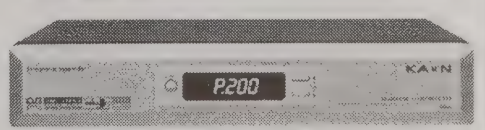
- ✓ WORLD CLASS
- ✓ LEADING TECHNOLOGY
- ✓ HIGH QUALITY
- ✓ VERY RELIABLE
- ✓ SIMPLE & SPEEDY
- ✓ EASY INSTALLATION
- ✓ SOFTWARE UPGRADABLE
- ✓ EXCELLENT SUPPORT

Personal Video Recorder
Simultaneous 2 channel record, 80Gb HDD
Common Interface Slots

Mutiroom Receiver
Watch different channels in two rooms
Dynamic Channel Update
Follows Freeview Channel Mapping



Small and Stylish
Dynamic Channel Update
Follows Freeview Channel Mapping



Common Interface Slots
Dynamic Channel Update
Follows Freeview Channel Mapping

IMPORTED AND DISTRIBUTED IN NEW ZEALAND BY:

ASoft

ASoft Limited, PO Box 50657, Porirua. 43 Joseph Banks Drive, Whitby, Porirua, New Zealand
Phone: 644 234 1096 Fax: 644 234 1098 Email: info@asoft.co.nz Website: www.asoft.co.nz/kaon/

North American Piracy Conversion of FTA receivers: An update

We (the Pacific region) have been there. SatFACTS in 2003 reported a rumour of a "cardless solution" then making the rounds, "with a Taiwan origin" we said. Close but not quite; it would turn out to be Korea.

As SF#153-4 reported in our June issue (page 27), "*Nagra* (used by the [USA] DISH Network) *is totally compromised...*" with extensive involvement of hardware widely advertised for sale by dealers, especially in Canada. SF#156 updated in August (page 2), "*Asian based* (and) *California operated firm ViewTech has been charged by* (the) *DISH network with providing FTA receivers which are capable of after-sale software modification that allows users to access a wide range (including PPV movies) of otherwise encrypted programming.*" The same August issue (page 29) recited two experiences your editor had while attending a pair of electronic shows (Georgia, Ohio) during April and May of this year, both of which had a connection to this subject.

Following the initial late-July press release in which DISH stated the reasons for bringing charges against ViewTech, SatFACTS retraced the steps to contact individuals who had been so open with their own descriptions of the status of the FTA receiver conversions during the April-May shows. There seemed to be an element missing here as we shall explain to you.

SatFACTS (#116, April 2004) headlined an extensive report, "NO physical CAM, NO card: 'Pay-TV without paying." A (then) new receiver appearing in the Canadian marketplace arrived as FTA and the user did one or two simple things using web sources and suddenly more than 500 pay-to-view channels were available. This was the original 'Blackbird' receiver.

ViewTech = Viewsat

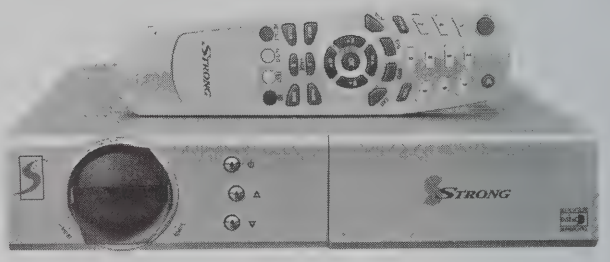
ViewTech, with offices in Oceanside, California is an importer of Asian built consumer electronic products (see SF#151, p. 7 for our review of one such product). The DISH lawsuit announcement cites Jung Kwak, founder of ViewTech, as the individual responsible for creating a marketing plan that works (still today, as we shall see) like this:

1/ A receiver is designed which has built-in software that emulates a *portion* of the decryption code for a service such as Nagra (the Pacific-version X-Box solution was designed for use with the Indian Zee Network's Conax encryption). But as the receiver leaves the factory (Korea), and enters either Canada or the United States, it is clearly imported as a "Free to Air"/FTA product.

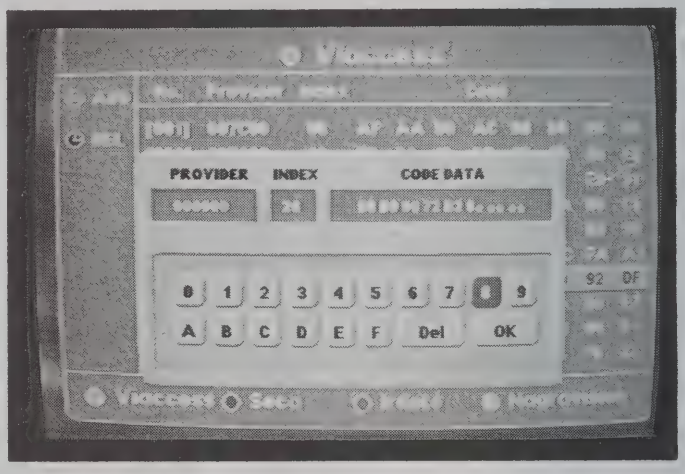
2/ At this point it is allowed into the destination country because it violates no existing law or regulation.

3/ At the distributor level (8 official ViewTech distributors sell to dealers) it remains FTA - protection against a wide area distributor being nabbed for doing something illegal.

4/ The dealer level comes next and any dealer who worries about being arrested, hit with a large monetary fine and spending time in jail, leaves it just that way; FTA. However, as we will spell out, not all dealers seem to have that sense of self preservation.



The fabled 'X-Box' receiver, popular in 2004 because it could be decryption key updated by the user with information secured from a web site.



What a dealer *might* do, openly or behind a closed door, is to advise the retail customer, "*this receiver with some web provided software updates can receive the programming of DISH TV - without payment as a subscriber.*" On the other hand, most customers walking into a dealer's place of business searching for just such a device already know this tid-bit of information.

5/ Now the FTA receiver is in the hands of an individual, a retail customer. All he or she requires to 'open up' the DISH channels is the current web site address and an appropriate piece of cable with connectors to link from the home PC to the port on the ViewTech (or competitive brand) receiver.

This, in theory, happens inside the customer's home, behind closed doors where, without a search warrant and some time and effort, 'the authorities' will not become involved.

In their initial legal filing and the press release that appeared in a limited number of print media outlets, DISH claims *"over 2,000,000 of these illegal receivers have been imported into North America."* In a pay-subscriber universe of around 13,000,000 - that number is not insignificant (15+% of the subscriber base - 1 'pirate viewer' for each 6 paying customers).

These receivers leave the factory in the region of US$30 each and end up passing to the ultimate user between US$200 and US$300. Along the way from importer to distributor to dealer everyone makes money; even the ultimate customer as

skybridge

Skybridge (Australia) a merger of Ursys and GM Communications www.skybridge.com.au

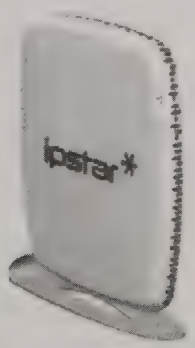
Installers wanted for satellite broadband connections

The Australian Government's Australian Broadband Guarantee Subsidy has provided for unprecedented activity in the two way satellite installation industry. Skybridge is a major provider of installation services for ISP's in Australia and we are seeking contract installers to help us with the increased demand Australia wide.

ipstar Broadband Satellite

This is a great opportunity to compliment your existing business with the provision of installation services of this exciting new technology. If you have experience in installing receive only satellite systems, Skybridge will provide all of the necessary training documentation and technical support you will require to be proficient in installing IPSTAR satellite broadband.

If you would like to be involved please register your interest @ installers@skybridge.com.au



Executive Summary: EchoStar + Nagra versus ViewTech / Jung Kwak

✓ **There are at least six** Asian firms producing 'adaptive software' FTA receivers.

✓ **Any of these receivers** can be user-modified to receive US based DISH Network or Canadian based ExpressVu.

✓ **These receivers are trade-known** as 'FTA' because, unmodified by adaptive software, they are limited to receiving non-encrypted programming (more than 450 such channels in North America alone).

✓ **Some estimate** that as many as 2.1 million 'FTA' but adaptable receivers have been sold (2004 > 2007).

✓ **The receivers** arriving in North America violate no existing laws because the 'adaptation' to a pay-TV decryption device is done after importation.

✓ **The original manufacturer** provides a (software) 'pathway' into which a user can enter decryption information sourced from the web or otherwise.

✓ **From importer** (ViewTech) to distributor (of which the suit claims 8 exist) to dealer, the receiver typically remains only capable of receiving non-encrypted transmissions.

✓ **Retail sellers** (dealers) may or may not 'adapt' the receivers connecting web-sourced instructions to the receiver through a PC; dealers doing so risk significant legal challenges if caught (in the USA; not in Canada).

✓ **Retail buyers**, provided with instruction and web-source sites, are able to 'adapt' the receiver to either Dish or ExpressVu (or both) reception without payment for the programming.

they are ripping off as much as US$100 in programming each month.

The Canadian situation. This adds an element of legal complexity to the problem faced by DISH. The American pay-TV service is *totally illegal* in Canada. Well, sort of illegal. Then again, *maybe* it is not illegal - it simply has no corporate legal rights to actually solicit and accept paying subscribers from Canada. Canada has two national pay-TV (Ku band) operators (as does the USA - DirecTV plus DISH) and the national policy is this: "*If you live in Canada, and you wish satellite TV service, go to a Canadian supplier.*"

No accurate count has been recently done of how many Canadian homes are in fact watching US Ku programming - either as a pirate of DISH or as paying customers of DISH or DirecTV. If you (1) are Canadian, (2) are willing to pay for either DISH or DirecTV, then the only way 'in' is to create a mailing address some place inside the United States. It is the mailing address which establishes in the records at the pay-TV provider 'where' you live and therefore where your authorised decoder resides. *Even if it does not.* A clandestine search of tiny towns on the US side of the border with Canada reveals several (example: Westhope, North Dakota, population 492, with more than 200 "% of General Delivery" mail recipients) where honest, bill paying Canadians maintain a US address to satisfy this requirement. Several towns along the border of Minnesota and Canada actually have more DISH and DirecTV paying subscribers than there are *people* in the town!

But why pay for DISH if some guy in your town or the next town has a flashing neon sign announcing "FREE to AIR Satellite Receivers HERE!"? Whether you pay for it or not, owning equipment to receive and watching either DISH or DirecTV is a violation of a Canadian Supreme/High Court decision (2002). The guy who maintains an address and pays DISH from Westhope is just as liable for prosecution as the chap who owns a Viewsat receiver.

About which. From the late 1970s until 2002 a series of Canadian court decisions ruled that watching American satellite television was perfectly OK. They also ruled that clubs, hotels, motels - anyone *other than* a Canadian cable system was not in violation of Canadian law by doing so. American political pressure caught up with Canadian nose-thumbing in 2002 and for a brief period of time the fabled Canadian Mounties actually raided satellite equipment dealers and even a handful of well publicised individual homes attempting to spread the message - *'not any more'*! It did not last long (a few months) and gradually the Canadian satellite retail world recovered just enough for the Blackbird-solution to propel it into a meteoric rise to sales once again.

In fact, Canada has no direct part in the current lawsuit brought against ViewTech. DISH knows they already have paying clients in Canada through the subterfuge of US postal addresses, as does DirecTV. DISH also knows that Canadian satellite retailers opening advertise and promote Viewsat and other receivers and lacking the agreement and support of the Canadian government (not likely, soon) they are wasting time and legal fees even trying to stop it; Canada's (government and court system) response remains, "*You are not licensed to do business here - go away!*". (Canada's relationship with the US is similar to that between Australia and New Zealand with an undercurrent of "In your face Uncle Sam!" whenever the American position attempts to dictate policy to Canada.)

So why even mention Canada here? That is part of the mystery behind the direction taken by DISH in charging ViewTech. Let's lay it out and then using our editorial resources attempt to discover whether DISH is making some mistakes with their suit, or is it simply playing to the press corps? Remember - DISH is stock exchange traded through parent EchoStar (NASDQ: DISH) and when bad news (such as, "massive piracy") makes the financial press, their stock value and therefore their corporate assets can decline.

A hard case to prove?

We have not yet located a copy of the actual court filing by DISH (working on that) but all of the headlines point at one legal point; DISH must *prove* that ViewTech knowingly and openly not only encouraged the (Korean) receiver supplier(s) to include 'partial decryption' routines into the FTA receivers, but then turned around and shared the next step (software downloaded from the web) with distributors, dealers and the public. A press story about this case makes the statement, (ViewTech founder) "*Kwak was linked to the sale and marketing of boxes directly because he frequently participated in chats on Web sites devoted to pirating satellite television feeds.*" We'll return to this point.

America is known for its 'freedoms' (at least until the current Washington administration). It is OK to buy a wide range of guns and ammunition (after a recently enacted qualification process) because the gun *seller* has no control over *how* the weapons will be used *after* sale. It is OK to purchase several tons of phosphate fertiliser from an agricultural supplier, go home and build a huge bomb to kill people and wreck buildings, because the seller has no control over whether the buyer spreads it on a corn field or blows up a hospital. It is OK to sell a Chevrolet Corvette with a top speed of 300 km/h even

✓ **Canada is** the major market for the 'adaptive' receivers because of a 20+ year history of receiving US satellite programming through various previously established 'conditional access' systems; as many as 750,000 Canadian homes continue to view US services which, technically, are illegal to watch in Canada.

✓ **US based DISH** Network cannot be legally sold by subscription in Canada; ExpressVu from Canada cannot legally be subscribed to in the USA.

✓ **EchoStar** and their conditional access system provider Nagra have selected ViewTech, not necessarily the largest importer of adaptive receivers, for the current lawsuit.

✓ **Each of the six** Asian-based suppliers of 'adaptive' receivers has established a relationship with a North American based 'software analysis' firm. These firms supply the software required to 'adapt' a particular receiver for reception from DISH or ExpressVu and when the encryption data stream is upgraded (to eliminate piracy) the 'quick-turn-around' to reopen the transmissions.

✓ **Echostar/Nagra** have named ViewTech CEO Jung Kwak individually as a defendant based upon a claim he has participated in various 'web chat sites' providing commentary or information relative to the adaptive process. The suit also reserves the right to name additional individuals ('nameless' at this point).

✓ **SatFACTS has run-to-ground** web-chat commentary and sources for the adaptive software which at this point remains unnamed in the pending lawsuit.

if that is 3 times the typical maximum posted highway speed because - right - the *seller* has no control over how the car will be driven. The basic American freedoms leave the creator and seller of any number of dangerous items out of the responsibility loop. A chemist sells vials of separate chemicals - how you go home and mix them is your business.

"*Don't yell FIRE! in a crowded theatre or auditorium unless there really is a blaze.*"

DISH wants to tag Jung Kwak and his ViewTech for importing receivers which, with after-sale modifications, could be used to receive a law-protected encrypted television service. It is a hard legal case. Castrate the receiver source(s) and all of the sperm goes away.

Step one

Let us suppose DISH has located the factories in Asia (primarily Korea) where ViewTech sources receivers (it took us 90 seconds to do so and we are on a slow speed Internet link). Let us further supposition DISH located one or more people, engineers even, who have agreed to travel to America and testify in court that they (1) know and have met Jung Kwak or one of his lieutenants, (2) have verbal - perhaps even written - instructions about creating a receiver with 'partial decryption software' from Jung or ViewTech, (3) have further correspondence or other proof that Kwak or his firm participated in the final step - providing the retail customer with access to the 'missing decryption' data through a web link.

Would that make a case against ViewTech? Perhaps.

A thin legal line hanging by a thread in a courtroom will separate even solid evidence of Jung Kwat asking for partial decryption software and the part that makes it work - *after* the sale. You can be a collector of antique World War Two shoulder mounted bazookas in America, but the law restricts you buying ammo for it. The guy who sells, without permission, the shells for the bazooka is the culprit in this example - not the chap who owns the bazooka and buys the illicit ammo.

But Viewsat receivers, claiming the most sold by volume in this grey business, are not alone; there are at least five significant 'other sources' (this took us two minutes on the web to determine) and two new recent start-ups in China; not exactly the most respectful area when it comes to copyrights and legal niceties. If DISH is looking for the best 'point of castration' to cut off this business, there are much better choices than ViewTech. They should be very obvious to you.

Nagra?

The most common thread in this patchwork quilt is of course DISH's reliance on the Nagra (Swiss based) encryption system. DISH competitor DirecTV uses a different CA routine (NDS) and to date for a number of reasons (including the personal safety of any who might attempt to sell software solutions to NDS) it does *not* have "massive piracy".

Castrate at the Nagra point? If you were really serious about stopping piracy, patching up a system that has a decade of piracy problems is perhaps not the best place to start. But there are horrendous financial costs, dating back to the very first DISH/Echostar receiver designs, which make this a non-choice even if it is the decision that would finally cancel the problem. Further complicating this scenario (replacing Nagra) is a 'very tight' relationship between Nagra and DISH - each has a financial stake in the other.

The point of import is another potential castration choice. If *all* FTA receivers, of any brand, model, function were simply denied access to the United States, would that work? Indirectly, if we follow DISH's present legal case to its eventual decision (in their favour), stopping ViewTech imports would then provide the legal precedent to also have other (FTA) receivers added to the 'banned' list. But this returns us to the issue of 'American Freedoms' - cutting off import of FTA satellite receivers is right up there with deciding that *nobody* can purchase a gun of any sort - ever again. And unless Canada also agreed to stop all such imports - highway 83 leading out of Westhope (ND) into southern Manitoba turns into a bootlegger's midnight drive. In other words, shutting down one supplier, one source solves nothing - the players on the board simply change squares.

And that software

So now we all understand that no matter how Jung Kwak conducted ViewTech from day one, unless DISH can prove that his fingerprints are all over the after-market (consumer entry level) business of 'adaptive software' the DISH case looks like a meaningless exercise in public relations perhaps only to protect them from a run on the public's perceived value of their stock. What about that after-market software?

We will begin with a negative. As best SF can determine, there has been no contact between the people who created the software and DISH. Note we did not say "*...the people who created the software and ViewTech*" simply because we do not know that for a fact. Normally, the people who create 'adaptive

RECEIVERS

LNBS

DISHES

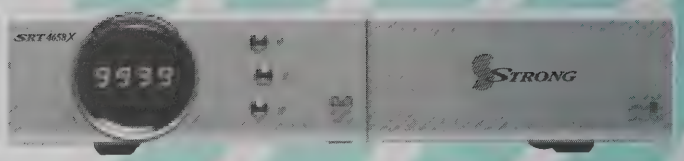
POSITIONERS

ACTUATORS

SWITCHES

selectv
authorised dealer

Robust Digi
Receiving
For Au



NEW

SRT 4651X SRT 4653X
SRT 4654X SRT 4658X
RANGE FOR SATELLITE

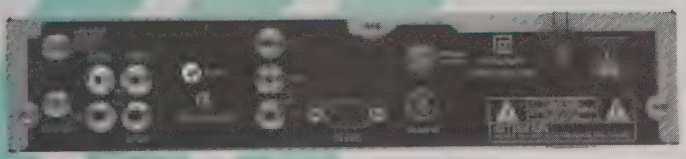
- FTA / CI / CONAX CAS7
- COMPONENT VIDEO OUTPUTS
- ADVANCED BLIND SCAN
- USB 2.0 INTERFACE
- SUPER SENSITIVE TUNER

SRT 5020
FOR TERRESTRIAL

- COMPONENT VIDEO OUTPUTS
- SUPER SENSITIVE TUNER

STRO

al Television Equipment tralasia



Interested in purchasing or distributing STRONG products?

contact us for more information

STRONG TECHNOLOGIES PTY LTD.
60 Wedgewood Road, Hallam
Victoria 3803, Australia

Phone: (+61 3) 8795 7990
Fax: (+61 3) 8795 7991
Email: asales@strong-technologies.com

For additional information about us and about our satellite and terrestrial receivers, visit our website at:
www.strong-technologies.com

For technical matters, please write to:
tech2@strong-technologies.com
or call 1 800 820 030

NG

not just by name

Current: Bell ExpressVu attempts to turn-off FTA viewers

As SatFACTS was researching this report, some additional wrinkles have been added to the status of the 'adaptive FTA' receiver reception; Bell ExpressVu (the Canadian firm sharing the same Nagra encryption technology with DISH) is attempting a fix.

"**On August 30 ExpressVu** has increased the number of decrypt keys (known as IDEA keys) from 2 to 4, and morphing the software to vary slightly how the key change packets come down. This has been extremely effective in shutting down FTA receivers. By September 3rd, two 'free-to-air' fixes had been posted (www.realf2A.com) which will have the immediate effect of raising the stakes in the cat and mouse game. There is much discussion within chat groups concerning the likelihood DISH will follow suit - if the changes prove to be effective. That is one of the advantages DISH has - ExpressVu is a much smaller service and can attempt fixes to prove them before the 13,000,000 universe USA system does.

"**Following the announcement** that EchoStar/Nagra had filed suit against ViewTech in the states, I expected to see some sort of change in the way Viewsat receivers were being sold in Canada; even a product shortage. None of this has eventuated as of early September - larger dealers in cities such as London (Ontario) continue to openly operate supported by sizeable flashing neon signs proclaiming the availability of 'FREE to AIR' receivers and most of the 'satellite shops' also deal in computer equipment."

LD, Ohio

software' are hidden behind several layers of subterfuge; false addresses, false names, and rapidly changing email addresses.

To the contrary, with assistance from someone much more web-savvy than your editor, in three hours time virtually everything anyone (including DISH) would want to know about the 'adaptive software' creators was flowing out of a Skype message contact. Which returns us to the original question - the so-called 'mystery' behind why DISH has chosen to go after one importer of receivers rather than the people who have turned those receivers into fully loaded bazookas?

There is a bit of a ruckus on-going between two different groups each of which claims 'creative responsibility' for the software in question. Reliable Software (pretending to be in a small town in the state of North Carolina) operates a web site (www.reliablefta.com). Their site is reasonably well 'shielded' from direct tracing (pinging creates 58.65.232.186 - the IP). This server is physically located (or so it appears) in Hong Kong and while this is beyond normal US jurisdiction, were it moved slightly north into (mainland) China proper, another layer of blockage would be added to their identity. The domain registration is very well masked - even the name of the camouflage firm (if there is one) cannot be extracted. The server does have one possible weakness - it is connected through the APNIC (the Asia-Pacific segment of www). As our outside helper noted, "*These guys know what they are doing and are intentionally hiding on a foreign server.*"

"Know what they are doing?" Again, *perhaps*, but then if you enter the site there are 'fingerprints' from wall to wall. Some examples.

Reliable FTA: Terms of use and entrance prerequisites: By entering this web site, you hereby and without exception, agree all information within this web site is intended for informational and educational purposes only. ILLEGAL use of ANY information on this web site is strictly prohibited. You and you alone are solely responsible for abiding by the law of your country, state, province or territory. All information on this web site is protected by the fundamental right of free speech GUARANTEED by both the United States Constitution and Canadian Charter of Rights and Freedoms. The creator(s) of this site or the ISP(s) hosting any content on this site take NO responsibility for the way you use the information provided on this site."

This site? It is a part of a group of associated sites which 'co-operate' to provide the after-market component missing when someone unpacks their Viewsat (or competitive brand) FTA receiver. The previous language is at best not very well constructed as a legal document (even overlooking that it is the 'Bill of Rights' and not the US Constitution that grants rights to Americans). The message from this is simply - these people may not have sought advice from an attorney before launching their 'adaptive after market software' business.

A more productive web site (www.dsstester.com) contains several chat room files dated in the period February-July of this year which reveal a level of animosity existing between ReliableFTA and some competitors. They also work the grey side of the street creating 'fixes' for DISH (and Canada's Bell ExpressVu, also a Nagra 'protected' service) to patch in 'repairs' to the vulnerable software. As would be expected, there are numerous cloak and dagger fictitious names which the top level 'script writers' hide behind. Some extracts follow.

Like virtually all STBs, there are web sites and chat rooms to support particular products. Brand names include Viewsat, Magnum, Sonicview, Coolsat, Pansat/Panasat and Captain. As was once true with Australian gold cards (and Irdeto 1 CA), if you place 10,000 monkeys in front of a keyboard, eventually something useful will come out. Each receiver has its own 'support team', usually made up of the brightest hackers, and some of these take their tasks very personally; critiques are seldom well accepted.

Someone calling himself mikesmadd wrote:

"I think the main reason that the folks at Captain decided to string us along was misinformation about what is needed for support. The engineers in Korea have very large egos and seem to think that they can do everything from there. We have tried to explain that the Koreans don't even have access to the satellite stream which is required to test potential solutions, but our words fell on deaf ears. The Koreans will continue their futile efforts to try to support the Captain receivers but since they have no North American support team, their (FTA) ship is sinking fast."

'Support team' of course means someone who can toy with the software adaptations while *simultaneously* receiving the encrypted service signals; DISH certainly does not reach Korea but attempts to take a service off air and web-link it to a far distant point (such as Korea) have been partially successful.

'FTA' does not mean free to air except as the receiver is advertised and sold; it really means a receiver that can be 'adapted' to an encrypted service (DISH).

The mikesmadd posting drew a rebuttal.

MELBOURNE SATELLITES

SINCE 1991

21 TURBO DRIVE, BAYSWATER VIC 3153
Ph. 61 (3) 9738 0888 Fax. 61 (3) 9738 0001
Email. sales@melbournesatellites.com.au

NEW

STGold ST2000F ST4000IR

ST2000F - FTA Digital Satellite Receiver:
Front Channel Display & Buttons, Dual Scart, RCA, S/PDIF, Dolby Digital, UHF RF Modulator, I/R Remote Control

ST4000IR
FTA & IRDETO Embedded Digital Satellite Receiver:
Front Channel Display & Buttons, Smartcard Reader for Embedded IRDETO, Dual Scart, RCA, S/PDIF, Dolby Digital, UHF RF Modulator, I/R Remote Control

*****Check our Website for further details*****

www.melbournesatellites.com.au

MOTECK · PROMAX · GEOTRACK · Norsat International Inc. · STI · IKUSI · HUMAX · TOPFIELD Multimedia Home Gateway · AZURE✦SHINE

SATELLITE STGold TERRESTRIAL

GEOTRACK
Actuator Arms
Light Duty 18" & 24"
Heavy Duty 24" & 36"
DiSEqC H-H

DiSEqC 1.2

D-ST7 2.3Mtr Heavy Duty
D-ST10 3.0Mtr Heavy Duty

Get direct access to Trade Prices by registering your details at www.melbournesatellites.com.au and click the register link on the left....

Satellite Interference Filters

Eliminate out-of-band interference at your C-band receive antenna! Available for all international bands.

Distributor Inquiries Welcome

MFC Microwave Filter Co

MICROWAVE FILTER COMPANY, INC.

Tel 315-438-4700

FAX: 315-463-1467

E-Mail: mfcsales@microwavefilter.com

Web:

http://www.microwavefilter.com

Post Script: How US suppliers are reacting

We asked: "Have sales of 'FTA' receivers changed since the suit announcement?"

Response: "Yes - sales have gone up! The press reports and word of mouth is now driving the market. Of interest, while ViewSat claims to be the number one seller, in fact the distributors in the states I talk with say Pansat outsells Viewsat at least 2 to 1 here."

We asked: "Why then has EchoStar/Nagra engaged ViewTech rather than another supplier, such as Pansat?"

Response: "That is a mystery to us. Equally, why did EchoStar wait to this point to bring a suit - the receiver sales have been steadily growing for at least two years. Now that they have selected ViewTech as the defender, it becomes a game of which side is willing to spend the most money hiring attorneys. On average, the 'FTA' receivers leave a $100 profit at the importer level. For each 1,000,000 receivers out there, somebody has pocketed $100,000,000. That will pay for a battery of attorneys."

We asked: "ViewTech's web site (http://www.viewsatusa.com) is one of the most aggressive, in your face sites on the web. They have a 'Legal Disclaimer and Limitation of Liability' (see p. 21 here) opener which clearly warns, '*The equipment provided by Viewtech is intended for legitimate usage only. It is the sole responsibility of the user to ensure compliance with all laws when using these products*'."

Response: "One of the more amusing items currently still on view attacks a firm in Canada (OvisLinkInc.) which apparently was at one point a ViewTech-authorised distributor of the Viewsats. Then they allegedly went out on their own, to China, and created a Viewsat 'clone' which they began selling complete with Viewsat literature-copies and identical product colour and markings - calling them 'Viewsat' of course. According to the posting, ViewTech obtained court cease and desist orders to stop the sale of the clones."

We asked: ""The lawsuit apparently only names a single individual, Jung Kwak, but some unverified press reports mention 'several unnamed individuals' as also being culpable. What is your suspicion here?"

Response: "No one ever mentions software; all of the blame goes to the receiver supplier and those who import them. That makes no sense at all."

"I have previously stated that Captain has a new support team that produced the May 22nd and June 5th files for the 7000 model. Mike has also claimed that Captain took the value out of doing business with TR yet he forgot to mention that he was asking Captain for a ridiculously large sum of money for support that he had not even developed. With regards to Captain's Korean team, they are a great bunch of co-operative guys. However, Mike also neglected to mention that as a consideration for being the support for Captain, he was insisting the Koreans hand over the full and complete source code before a bin could be produced, which of course is not necessary." And it is signed Aleeno.

There are clues here that go back to the days of the first hacking of the first cards (in Ireland of the original BSkyB cards). There are those (Aleeno) who are primarily in the 'support' business because they find it challenging, and others (mike) who are chasing the dollars. These are two opposing forces out of which folks such as DISH might locate 'insiders' who would turn as state's evidence in support of a suit against others, such as ViewTech.

SatFACTS ran down 'mikesmadd' and asked him for a reflection on how he and his business (ReliableFTA) are handling the case against Jung Kawk. His response:

"There is a great deal of uncertainty within the Free-To-Air industry right now as Charlie has his ambitious legal team working double time. I am not afraid because I have some really good people on my side and personally, I am trying to stay under the radar."

Setting aside the familiarity Mike uses to address DISH ("Charlie" as in Charlie Ergen, CEO of DISH), what does all of this tell us about the status of the suit and the present Nagra encryption system?

The mystery remains

Our opening of this report suggested certain pieces do not fit. DISH's "ambitious attorneys" have singled out *one* importer of receivers, claiming more than 2 million have been imported over an undefined time period (and not necessarily by ViewTech alone). The claim also does not spell out whether these are receivers shipped into the United States alone or includes Canadian shipments as well. Nor does it tell us anything about receivers brought into either country and then trans-shipped to the other - in either direction.

The case also fails, to the best of our research, to deal with the software aspect of the situation DISH finds themselves facing. Remember - the software 'support groups' are the ammunition defined as the weapons here. One press story noted, "EchoStar and its related company, NagraStar LLC, filed suit against ViewTech Inc., its founder Jung Kwak and *several unknown individuals*." SatFACTS located two possible "unknown individuals" which we identify here as Aleeno and Mike. We further identified Mike's full business address including his personal information. One segment of the mystery we relate is that to date EchoStar and Nagra have not also named these individuals (which of course may be added to the original suit at any time). It could be this is a deliberate ploy - threaten to name one or more as defendants unless they agree to co-operate with DISH/Nagra.

EchoStar/Dish/Nagra have faced this piracy problem from day two of their initial turn-on more than a decade ago. The Nagra system employs a card which is 'additive' - decryption information sent via satellite is *added to* information supplied by a card 'loaned to' the paying customer. NDS approaches the card segment from a different design direction - the card and the satellite data stream 'communicate' back and forth. It is far more complex to create a card-replacement that is totally software added to the receiver by a web-source and that is the primary reason why NDS remains essentially hack-free.(*).

*/ NDS is the prime example of an encryption system that works. The system, in all honesty, is not worthy of that acclamation but because of excellent management by serious people who will not stand idly by when ANY sign of piracy occurs, those with pirate tendencies approach commercial hacking of NDS with great care. People who have charged ahead with NDS piracy are no longer 'with us' - a strong message and warning.

And that leaves us to study the words of Jung Kwak as found on the firm's web site. As always, there are valuable lessons here and those who ignore history are doomed to repeat it with essentially the same results as the first time around!

ViewTech Web Site proclamations

"LEGAL DISCLAIMER AND LIMITATIONS OF LIABILITY:

"Viewtech is not responsible for any loss or damage occasioned by, or arising out of the improper or illegal use of products manufactured or distributed by Viewtech.

"In no event whatsoever, shall Viewtech be liable for any form of indirect, special, incidental, exemplary or consequential damages, including, but not limited to, any loss of profits or loss of business, as a result of any breach of the terms hereof by the User/Buyer or any third party.

"The equipment provided by Viewtech is intended for legitimate usage only. It is the sole responsibility of the user to ensure compliance with all laws when using these products. It is a criminal offence to illegally access encrypted satellite signals. If you are using illegitimate methods to watch a pay television signal without compensating its owner, then you could be in violation of one or more laws, and may be subject to prosecution under the laws of your country.

"The buyer of a Viewtech product agrees to indemnity and hold harmless Viewtech, it's officers, directors, shareholders, employees, agents, assigns and affiliates, from any and all claims, actions, suits, demands, and legal costs, brought against Viewtech in connection with any use or improper use of Viewtech products by the Buyer/User or a third party."

"TERMS OF USE & DECLARATION OF INTENT:

"**The end-users** of Viewtech products need to read and agree to the Terms of Use and Declaration of Intent. The sale of our product is contingent upon these terms. The user of Viewtech products agrees to the terms below.

"**I, the user understand** that certain satellite television equipment sold legally may nevertheless be used in an unauthorised manner to aid in the theft of satellite television services. I, hereby declare that I understand that the law provides for substantial criminal and civil penalties for the theft of satellite television services, and that I will not use Viewtech products in any way whatsoever to intercept any satellite television signal without proper authorization from the local satellite service provider and payment of all lawful charges, and I will only use the equipment in accordance with all applicable laws.

"**Thank you for complying** with this disclaimer."

Coop's Comment. As you see, ViewTech (or is it Viewtech???) has decent legal counsel and it may be difficult for EchoStar/Nagra to manoeuvre in court through these iron-clad 'statements of intent' by the company.

On the other hand, this is some of the most creative language I have seen from someone trying to telegraph a secondary message regarding the capability of a piece of equipment - even if it is clearly illegal to use it for that purpose. Which reminds me of a true story which I participated in.

Back in 1959 the US Federal Communications Commission (FCC) proposed something new for America - CB or Citizens Band Radio. The *first* CB had been created at UHF (460 MHz) but given the state of technology in the 40s when this was done, one would be very fortunate to communicate even a kilometre with the UHF band equipment rushed to market. The 50s' 'new' CB would be at 27 MHz (11 metres), power would be limited to 5 watts maximum input per unit (output typically around 3 watts) and there would be as many as 24 'CB channels'.

There were additional restrictions on maximum transmit antenna height, essentially limiting the new transceivers to around a 10km range; significantly better than the UHF version.

By 1974 CB radio had mushroomed, outgrown the original channels allocated, and the FCC proposed a new frequency band totalling 40 channels. They also anticipated the availability of SSB (single sideband) radios, effectively creating 80 channels (each would have room for a lower sideband and a separate upper sideband user). But as CB had grown there was legitimate FCC concern that many radios were being sold that as delivered allowed excessive power - 5 watts input was more often 10 watts when checked for compliance. The FCC conditioned the expansion to 40 channels (seen as a tremendous boost for CB sales) on the manufacturers of CB sets to self-police the product design. Radios submitted for FCC approval in advance of sale had to meet stringent requirements in exchange for CB expanding to 40 channels (the new channels guaranteed that all radios sold would now resubmit their models for approval before sales could begin).

The E.F. Johnson Company (Waseca, Minnesota) was an old-line high quality brand name in the amateur radio world. They, like RL Drake (the same Drake later in TVRO), Gonset, Hallicrafters and others designed their CB products as 'miniature channel-power limited' ham radio transceivers.

The first Johnson 40 channel radio came with a major disclaimer (which is what reminds me of the Viewtech statements); the transmitter used a tube capable of 15 watts of power but as it left the factory a sizeable resistor in the tube's B+ (plate power) lead dropped the voltage to meet the 5 watt FCC limit. And there on page one of the user manual was a statement:

"**This transceiver has been designed to operate at the FCC permissible power level of 5 watts. Under no circumstances cut out resistor R5 from the circuit board as this will immediately result in a non-legal 12 watts of transmitter power.**"

Johnson provided a drawing showing where R5 was located, above which in red type read the warning "*removal of this resistor will cause illegal operation.*" The only thing missing was a factory-provided pair of side cutters. Viewtech's statement contains everything but side cutters.

OOPS - Second Thoughts by Major Cities about providing area wide wireless networks

The original plan seemed like a natural - laptop and mobile computers have become essential tools for virtually all business people whether delivering goods in a van or travelling over an area and constantly on the move. And so WiFi islands developed, first at points where travellers congregate (airports for example), then in commercial establishments (McDonalds, coffee houses were early to install WiFi connections) and lodging facilities (hotels and motels were early adopters first installing hard wired broadband access into rooms). After spending big bucks for the hard wire along bounced WiFi which extended the reach of the local site connection to virtually any building location.

WiFi works as an 'extendible two-way link' between a PC and a computer; laptop or stationary. It does this by (1) having a low power (2.4/5.8 GHz) transmitter on board, (2) a companion receiver and (3) a tiny antenna. Both 2.4 and 5.8 GHz qualify as 'microwave' and each shares a relatively narrow 'band of frequencies' with other unlicensed devices (a microwave oven also operates in the 2.4 GHz 'band'). The range or reach of a WiFi system obeys the usual rules of signal coverage and blockage, each magnified by the low power (under 100 mW) transmitters on both ends, simplistic receivers (lacking sensitivity or resistance from overload from other devices sharing the same band - such as 'wireless phones') and ineffective antennas (a tiny patch antenna that has minus dB of gain reference even the basic dipole). LOS (line of sight) distance maximums typically are measured in hundreds of metres and if an object (signal blockage) exists along that path, distances will plummet to tens of metres.

When your editor was a child of 12, the best game I could find was to look for distant TV station reception in places where logic and theory suggested 'no TV reception should exist'; that would be in the early (19)50s. Son Seth (Cooper) has his own version of this, appropriately advanced with the technology. When we spent 6 weeks in North America during April-May, ten of those days were with satellite pioneer Doug Dehnert (SF#151, front cover) riding over 1,000 miles in Doug's 40 foot/12+m mobile home on wheels. Seth spent many hours with a laptop inside the vehicle at 110kmh looking for WiFi 'hits'. What he found often defied wave propagation logic - 'lock' from WiFi sites 10-50km away as we crested hills along interstate freeways. This 'DXing' activity taught both of us that while some hotel or motel's WiFi might be less than rock solid inside the building it was intended to cover, those pesky microwaves often went much further than anyone might anticipate.

Alas, 'DX' reception of WiFi sites is neither intended nor helpful if the system does not work to something approaching 90% coverage within its design area. In a single example, when Dehnert's mobile monstrosity (only in America!) approached Lake City (Florida) on highway 75, Seth was spotting area motel and hotel signals from as far as 20km distant. He zeroed in on one 'open access' system and stuck with it on the laptop until Doug pulled off for a night's stop. It persisted with occasional signal loss until we were within 1km of a hotel which as chance would have it we elected to spend the night. We chose the facility largely because a sizeable sign out front read "FREE WiFi" and Seth's mom liked the neat appearance of the attached coffee shop.

Once in our room, Seth quickly discovered the signal he had been 'reading' from a distance of 10km was only available (good luck here) when he placed the laptop on the provided desk. Move the PC to his lap while sitting up in the bed (or the bathroom) and no connection. Curious, he talked me into walking around the sizeable facility with laptop unfolded in his young hands. Coverage was spotty but available in the coffee shop, the facility's check-in lounge room and where they had a swimming pool and exercise facility. But step outside onto the concrete walkways and it was more 'no connection' than 'locked'. We would repeat this test for several weeks at various stops along our sojourn.

We quickly learned when standing before the registration desk of a hotel or motel to ask for a 'top floor room' since height above ground equals distance with all microwaves. It was enlightening to find a half dozen or more 'open access' WiFi systems into which he could check-in from modestly high 6 floor (20m above ground) rooms. In larger cities (such as Ft Lauderdale or Rochester) open access was less common although the number of sites fairly exploded - often as many as 20 from our room.

The point of this tale?

Building a city-wide coverage WiFi network on the back of public frequency bands, where anyone may operate without a license, is not a good choice. Moreover, if you wish to ensure that your 'wide-area-coverage' WiFi network really works into the cracks and crevices of a built-up area, such as San Francisco, you will need ten-twenty-fifty times as many WiFi linking sites as original planning indicated.

Australia plans 'wide-area-coverage' WiFi; good luck. Meanwhile in the US of A, major (as in big-time, huge dollar) WiFi systems are going from planned to cancel in increasing numbers. Some examples (the tip of a huge iceberg).

1/ San Francisco: Pushed hard by Mayor Gavin Newsom, industry major Earthlink, Inc., which had received city approval, has backed off and out. "*It is not financially viable*" they are saying. Earthlink was in a partnership with Google (that's "the" Google) to operate the network which on paper planned to offer two tiers of service: "Free access" at dial-up speeds and "premium" at (US)$21.95 per month at broadband speed.

2/ Chicago: After years of in-fighting and political back biting, competitors AT&T and Earthlink had agreed to a jointly owned service. Scrap it - "*not financially viable.*"

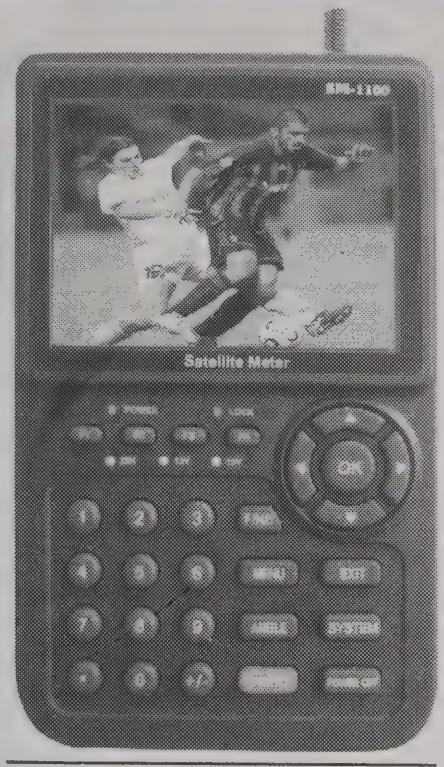
Earthlink has also announced firing of 900 employees, half of its work force; the reality of what they were proposing throughout the USA finally hit home. Using public access /microwave frequencies is no way to run a city-wide WiFi system.

SatFACTS Pacific/Asian MPEG-2 Digital Watch: 15 Sept, 2007

Bird	Service	RF/IF &Polarity	# Program Channels	FEC	Msym	Receivers and Errata
Thcm5/78.5	SkyChAust	3695/1455H	up to 3	3/4	5(.000)	CA (#1, 3); FTA audio #2
	ANT Greece	3672/1478H	1 TV	3/4	13(.333)	Late July 04: room for more (FTA)
	TARBS ME mux	3640/1510H	12TV, 12 radio	2/3	28(.066)	CA + 23FTA(A1TV, IRB3, Visjon Norge,Pakistan)
	Ch Nepal	3626/1524V	1	3/4	15(.556)	New 03/03; FTA
	Mahar mux	3600/1550H	11TV, 1 rad	3/4	26(.667)	Thai + Indian services; FTA inc. Vibe TV, Sindh TV
	RR Sat mux	3551/1600H	8TV,10 radio	3/4	13(.333)	3TV, 5radio inc. Hellas TV Greece FTA
	TVK Cambodia	3448/1702H	1TV	1/2	6(.312)	**FTA**
	TARBS/Th5	3480/1670H	12 TV+radio	2/3	26(.667)	**3FTA**: TV5, VTV4, ATN Bangla
	Thai Global	3425/1725V	up to 7?	2/3	27(.500)	FTA (reaches SE Australia)
InSat 2E/83	**ETV mux**	4005/1145V	6+ TV	3/4	27(.000)	Several ETV now here; wide beam
	Hyd Dig 2E	3910/1240V	1	3/4	5(.000)	SCPC, OK E. Aust. wide beam
	Kairali TV	3699/1451V	1	3/4	3(.184)	SCPC, OK E. Aust wide beam
	Indian mux	3643/1507V	3	3/4	19(.531)	corrections 12/02
	Sky Bangla	3430/1720V	1TV	3/4	6(.000)	New - November 2002
NSS6/95E	Ant Pac (Greek)	11 104H-Australia	1 TV	3/4	2(.800)	Now CA, was 11.083H
As2/100.5E	**Guangdong TV**	4075/1075H	1TV + radio	3/4	6(.000)	July 04: FTA
	Euro Bouqt	4000/1150H	5TV, 19 radio	3/4	28(.125)	FTA TV + radio; Russia,Port,Spain, Italy/Euro Bqr
	SatLink	3960/1190H	3TV	3/4	27(.500)	(Real Madrid left July 2007)
	Reuters News	3905/1245H	1TV	3/4	4(.000)	Was 3923H, sometimes **FTA**
	WorldNet	3880/1270H	4+/18radio	1/2	20(.400)	FTA; multiple audio services V2360, A2320
	APTN Asia	3799/1351H	1	3/4	5(.632)	Sometimes **FTA**; also 3895Vt
	Reuters/Sing.	3775/1375H	1	3/4	5(.631)	**FTA** & CA
	Macau MUX	4148/1002V	5TV	3/4	11(.850)	5 chs TV, FTA, some tests
	Dubai MUX	4020/1430V	4+, radio	3/4	27(.500)	FTA ; Dubai Sports Ch some English, soccer
	Russian/Israel	3832/1318V	up to 4 video	3/4	7(.271)	Two Israel, two Russian (REN-TV)
	ArabSat#2	3820/1330V	8+ video?	3/4	27.5	New 07-06; 10 FTA here
	Trace TV	3792/1358V	1	3/4	2(.400)	new here Dec 2004; Euro-French music videos
	BYU-TV	3767/1383V	1 + 20 audio	1/2	6(.530)	Increased coverage; great variety audio chs(03-05)
	3-ch miniMUX	3752/1398V	up to 3	3/4	5(.640)	Sun-TV, Surya TV, KTV (FTA)
	Saudi TV1	3660/1490V	7+/tests	3/4	27(.500)	FTA MCPC; Yemen, MBC EUROsport tests
Express2/103E	**Various-tests**	3675/1475R	2	3/4	4(.340)	Now loaded from 96.5E; svrl below 3900 all RHC
As3S/105E	**Chinese regionals**	3671/1471V	2	3/4	8(.932)	New 07-06, Yanbian, Jilin Satellite TV
	CETV digital	3680/1470H	1+ TV	3/4	26(.670)	replaces analogue same freq; V33, A32
	Zee bouquet	3700/1450V	10TV	3/4	27(.500)	Now SECA 2 CA (10-04); Radio Aust Eng. A2011
	Ch News Asia	3706/1444H	1TV (+)	3/4	6(.000)	English + V1160, A1120; 525, 625 versions
	Azio TV	3716/1434H	1TV (+)	3/4	7(.000)	Was parallel to 3640Hz analogue (now gone)
	TVB 8	3729/1421H	1TV	3/4	13(.650)	
	Zee Movies	3732/1418V	3TV	3/4	6(.500)	Conax CA, all Hindi films
	TV One	3739/1411V	1TV	3/4	2(.8934	Also reported 3.333, ¾ October 2005
	SAB TV	3743/2407V	1TV	3/4	3(.300)	SAB may no longer here here; moved to NSS-6?
	Fashion TV	3747/1403V	1TV	3/4	2(.625)	new frequency October 2005
	AAJ-TV	3750/1400V	1TV	3/4	2(.820)	New April 2005; English, urdu
	Arirang TV	3755/1395V	1	7/8	4(.418)	FTA SCPC; New PIDs V3601, A3606 June 2003
	Now TV +	3760/1390H	up to 10TV	7/8	26(.000)	CA + 10 **FTA**; DW, TV5; Al Jazeera English
	Star TV	3780/1370V	7(+)TV	3/4	28(.100)	NDS CA (Pace DVS211, Zenith)
	Pakistan	3786/1364H	2TV	3/4	5(.700)	Was 3647V; TV One & Waseb TV
	GXTV	3806/1344V	1TV + 3 radio	3/4	4(.420)	Guangxi TV; was As2
	Shaanxi TV	3813/1337V	1TV + 2 radio	3/4	4(.420)	Was As2
	Anhui TV	3820/1330V	1TV + 2 radio	3/4	4(.420)	Was As2
	Jiangsu TV	3827/1330V	1TV + 2 radio	3/4	4(.420)	Was As2
	HLITV	3834/1316V	1TV	3/4	4(.420)	Was As2; HeiLong
	Star TV	3840/1310H	7(+) TV	7/8	26(.850)	NDS CA (Pace DVS211, Zenith)
	Star TV	3860/1290V	5(+)TV	3/4	27(500)	NDS CA (Pace DVS211, Zenith)
	Dragon TV	3886/1264V	1 TV	3/4	4(.800)	Shanghai
	Shaandong	3895/1255V	1TV + 6 radio	3/4	6(.813)	Apparently Mongolia
	CCTV1	3904/1246V	1TV, 1 radio	7/8	4(.420)	
	Jilin TV	3914/1236V	1TV + 2 radio	3/4	4(.420)	
	Star TV	3920/1230H	4+ TV	7/8	26(.850)	
	CNNI	3960/1190H	8TV, 1 radio	3/4	27(500)	PowVu CA; new SR Apr 29; CNN radio **FTA**
	StarTV	3980/1170V	6+TV	3/4	28(.100)	NDS CA; Star News India **FTA** VPID 514, APID 648
	Star TV	4000/1150H	8(+)TV	7/8	26(.850)	NDS CA w/ **4(Chinese) FTA**
	Sahara digital	4020/1130V	8TV, 1 radio	3/4	27(.250)	New Sr September 2004
	Hubei TV	4035/1115H	1TV + 2 radio	3/4	4(.420)	Was As2
	Tianjin TV	4046/1104V	1TV + 2 radio	3/4	5(.950)	new December 2004
	Sichuan TV	4051/1099H	1TV + 1 radio	3/4	4(.420)	Was As2
	Qinghai TV	4067/1083H	1TV + 2 radio	3/4	4(.420)	Was As2
	Hunan TV	4082/1068H	1TV + 1 radio	3/4	4(.420)	Was As2
	Fashion/HK-Asia	4088/1062H	1TV	3/4	2(.626)	New July 2005
	Pakistani TV	4091/1059V	4TV, 1 radio	3/4	9(.330)	new Sr, channels, April 2006
	Sun TV	4095.1055H	1	3/4	5(.554)	"History Channel" - SCPC, some English
	PTV National	4106//1044V	1TV, 1 radio	3/4	3(.333)	
	TVB8 Mux	4111/1040H	4 TV	3/4	13(.650)	MATV Ch Movies now Irdeto 1
	Indus News	4115/1035V	1	3/4	3(.331)	Hindi (+ "Plus"); day parts
	CCTV bqt	4129/1021H	4 TV, 4 radio	3/4	13(.240)	moved from 4115
	Zee Bqt #2	4140/1010V	8(+) TV	3/4	27(.500)	Now SECA 2 CA (10-04); 1 occ. FTA (varies)
	Henan TV	4166/984V	1TV + 8 radio	3/4	4(.420)	Was As2
	Fujian TV	4180/970V	1TV + 2 radio	3/4	4(.420)	Was As2
	Jiangxi TV	4187/963V	1TV + 2 radio	3/4	4(.420)	Was As2
	Liaoning TV	4194/956V	1TV + 2 radio	3/4	4(.420)	Was As2
Cak1/107.5	Indovision (S-band)	2.535, 2.565, 2.595, 2.625, 2.655	33(+) TV	7/8	20(.000)	NDS CA using RCA/Thomson, Pace IRDs; **2.535 has 2 FTA.** Bird now inclined
T'Kom/108E	**IndoBqt**	3460/1690H	up to 6	3/4	28(.000)	also 3586H/17.500, 3496H/19.615
C2M/113E	**TPI**	4185/965V	1	3/4	6(.700)	FTA SCPA, NT/NC only
	Anteve	4144/1006V	1	3/4	6(.510)	change from 4055V, FTA SCPC
	Kabelvision Mux	4080/1070H	7+ TV	7/8	28(.125)	also try 3500H, 27.000, 3/4; strong NZ
	Indostar	4074/1076V	1	3/4	6(.500)	New (but probably temporary) 07-06
	SCTV	3934/1216H	1	3/4	6(.620)	**FTA,** may not be active full time
	Indo MUX	3880/1270H	3+ TV	7/8	28(.121)	**FTA;** Sr change 01/03; erratic
	KBS World	3838/1312V	1TV		2(.100)	New August 2007. note low res rate
	TVRI	3765/1385H	1TV	3/4	5(.555)	bounces btwn FTA and CA; unreliable (12-04)

Copyright 2007: SatFACTS, PO Box 330, Mangonui, New Zealand (e-mail Skyking@clear.net.nz)

Bird	Service	RF/IF & Polarity	# Program Channels	FEC	Msym	Receivers and Errata
	SCTV	3726/1424V	1TV	3/4	6(.620)	was on 4048V; New Caledonia, parts of Australia
	RCTI	3473/1677H	2	3/4	8(.000)	FTA SCPC;or, 3774H, 6.520, ¾ (June 06)
C6B/115	**See**	SF#156	p. 29	for interim	update	Services/bird new August 1, 2007
As4/122E	**CCTV MCPC**	3820/1330V	8	3/4	27(.500)	also: 3820V, 3940V,4100Vin blindscan
Sin3/125	**Tests**	3989/1161H	1	3/4	9(073)	Tests, coverage unknown; Hz only? 09/07
Jc3/128	Miracle Net	3996/1154V	3 up to 6	5/6	22(.000)	PowerVu; some FTA (Ch. 1 & 3)
	Asian bqt	3960/1190V	up to 8	7/8	30(.000)	**CA & FTA** NTSC: Japan, Taiwan
Ap6134E	Multiple	4140/1010V	up to 8	7/8	27(.500)	scan 3500-4200 V+H; analogue 3860V
T18/138	**Tests**	3460/1690V	8	3/4	30(.000)	also try 3660/3540VVt, Sr 30.000, 3/4; some FTA
Am3/140	**STS +**	3731/1419R	1	3/4	3(.200)	North beam; also try 3875R, 12.475, 1/2
Jc2A 154	**BYU-TV**	3915/1245V	1+ 20 languages	3/4	4(.166) (?)	Strong NZ & Australia; may now be 1/2, 6.525
MeasSs2	**Astro Mux**	11.602H	up to 17TV	3/4	41(.500)	Aust East beam - **3 FTA** + 14 CA
B3/152	**7 Cent. Feed**	12.310H	1TV	3/4	5(.100)	Was B1; moved June 2006, concerns B1 failures
	AuroraBiz	12.407V	4 TV, 10 radio	2/3	30(.000)	differs from 12.407 C1; **tune ch FTA; NZ+Au**
	UBI	12.425V	up to 13 TV + radio	3/4	22(.500)	Now Irdeto V2
	Globecast 2	12.525V	13 TV, 8 radio	2/3	30(.000)	NZ + Au, FTA + Mcrypt CA
	Globecast (feeds)	12.550-.555V	1TV	¾ & 2/3	6(.110/.670)	occ feeds, NZ + Au; recently 12.553V
	Globecast	12.564V/T13	2+ TV	2/3	30(.000)	AMTV, Healing only FTA svcs now here
	UBI	12.613H/T14L	11+TV	3/4	22(.500)	High performance beam; not NZ, new CA 07-06
	UBI	12.640H/T14U	11+TV	3/4	22(.500)	High performance beam; not NZ; new CA 07-06
	Globecast 1	12.658V/T7	14TV, 15 radio	2/3	30(.000)	NZ + Au (Mcrypt, PowVu capable)
	UBI	12.674H/T15L	11+TV	3/4	22(.500)	High performancebeam, not NZ; new CA 07-06
	UBI	12.701H/T15U	11+TV	3/4	22(.500)	High performance beam; not NZ; new CA 07-06
	WA ABC	12.702V	1 TV, 1 radio	7/8	14(.288)	ABC WA tests, FTA
	WA SBS	12.720V	4TV, 2 radio	5/6	12(.600)	SBS, radio tests WA FTA
	WA GWN/WIN	12.738V	2TV	7/8	14(.295)	Irdeto V2 CA, tests (GWN, WIN)
C1/156E	Aurora	12.324V/T1U				not currently in use
	Pay TV	12.365V/T2	11TV, 2 radio	3/4	27(.800)	Tests; SBS-NDS CA, others FTA when here
	Aurora Home	12.407V/T3	5 TV, 13 radio	2/3	30(.000)	NZ (90cm) + Australia **(Only C1 svc left on NZ)**
	Pay-TV	12.447V/T4	5TV, 4 data	3/4	27(.800)	Australia NA only (leakage to Norfolk, New Cal)
	Pay TV	12.487V/T5	3+ TV, data	3/4	27(.800)	Australia NA only (leakage); 9-Net x 3 widescreen
	Aurora 2	12.527V/T6	7TV, 20 radio	3/4	30(.000)	Arrow radio (still here), tone FTA
	Pay-TV	12.567V/T7	10 TV	3/4	27(.800)	Pay-per-view movies; CA
	Pay-TV	12.607V/T8	10 TV	3/4	27(.800)	Pay-per-view movies; CA
	Pay-TV	12.647V/T9	10 TV	3/4	27(.800)	Pay-per-view movies; CA
	Pay-TV	12.692V/T10L	6TV, 27 radio	1/2	28(.650)	ABC for Foxtel/Austar; previously 12.288V
	Aurora MUX	12.728V/T10U	4TV, 17 radio	1/2	24(.450)	changes September 2005
	Austar	12.305H/T11	6TV, 24 data	3/4	30(.000)	Austar inter, **Expo FTA**
	Pay-TV	12.358H/T12	10 TV	3/4	27(.800)	NDS CA + Mcrypt; CA
	Pay-TV	12.398H/T13	10 TV	3/4	27(.800)	CA, subscriptions available Australia, Norfolk
	Pay-TV	12.438H/T14	6TV, 3 data	3/4	27(.800)	Sky News active; 'Help x 2' **FTA**
	Pay-TV	12.478H/T15	10 TV	3/4	27(.800)	CA, subscriptions avail Au, Nrflk; **TVSN FTA**
	Pay-TV	12.518H/T16	10 TV	3/4	27(.800)	CA, subscriptions available Australia, Norfolk
	Pay-TV	12.558H/T17	10 TV	3/4	27(.800)	"Home"CA, subscription available Australia, Nrflk
	Pay TV	12.598H/T18	10 TV	3/4	27(.800)	CA, subscriptions available Australia, Norfolk
	Pay-TV	12.638H/T19	10TV, 30 radio	3/4	27(.800)	CA, subscription available Australia, Norfolk
	Pay TV	12.688H/T20	11TV	3/4	27(.800)	CA, subscription available Australia, Norfolk
D1/160E	Sky NZ test	12.394V	TV +	3/4	22(.500)	+ 12.421V, Au + NZ beam
	SBS SE	12.451H	TV+	5/6	12(.600)	+12.469H/Qld, 12.487H/South,
	Sky NZ test	12.519V	TV+	3/4	22(500)	+12.546 NZ only
	Sky NZ	12.581H	TV+	3/4	22(.500)	+12.608, 644, 671, 707, 734H NZ only (Aug 2007)
	ABC NSW	12.514H	TV	7/8	14(.294)	Australia only
	ABC South	12.532H	TV	7/8	14(.294)	Australia only
	ABC Northern	12.550H	TV	7/8	14(.294)	Australia only
	ABC Western	12.577H	TV	7/8	14(.294)	Australia only
	ABC Victoria	12.595H	TV	7/8	14(.294)	Australia only
	ABC Qld	12.613H	TV	7/8	14(.294)	Australia only
	Feeds	12.670V	TV	3/4	6(.670)	Dual beam (Australia & NZ); V8 other feeds 08/07
	Southern Cross	12.744V	TV + 1 radio	3/4	5(.100)	Australia only
I8/166E	SelecTV	12.526H	8+TV	3/4	28(.800)	& 12.286, 12.326
	CCTV	12.557H	3+TV	3/4	13(.240)	**FTA**-Australia
	ABS-CBN	12.575H	4+TV, 4+ radio	2/3	13(.845)	CA -Australia
	MYSAT	12.646H	up to 8 TV	3/4	28(.066)	FTA V=5340, A=790 -Australia
	JEDI/TVB	12.686H	11+ TV	3/4	28(.126)	June 2002-Irdeto-2 CA - Australia
	PnGlobal Aust	12.726H	6+TV	3/4	28.(066)	Some **FTA**-Australia
	ABC A-P	4180/970H	2TV, 2 radio	3/4	27(.500)	Dateline west; also east PAS2, 3901V
	Hallmark Asia	4166/984H	1 TV	3/4	6(.620)	Temporary FTA (January 2007)
	Disney Pac	4140/1010H	typ 6 TV	5/6	28(.125)	PowVu CA
	Hwazen TV	4130/1020H	1 TV			
	NHK Joho	4060/1090H	7TV, 1 radio	1/2	16(.180)	PowVu CA & **FTA**; sub available-changes 05-06
	FOX Mux	4040/1110V	up to 5TV	7/8	26(.470)	was PAS-2, previously 3992Vt; **feeds FTA**
	NET +	4121/1029V	1 TV	3/4	4(.774)	NET25 + FTA; new PIDS April '03; reload
	ESPN USA	4020/1130H	8+TV, data	3/4	26(.470)	PowVu CA, ch 11 DCP-CCP bootload; audio **FTA**
	Discovery	3980/1170H	8 typ.	3/4	27(.690)	PowVu/CA (some audio **FTA**)
	CalBqt/Pas8	3940/1210H	up to 3+ FTA	7/8	27(.690)	PowVu CA & **FTA (EWTN + CBS +TBN +)**
	CNBC HK	3900/1250H	up to 7TV	3/4	27(.500)	NDS CA (6 channels), one test card occ FTA
	FilipinoMUX	3880/1270V	up to 8TV+radio	5/6	28(.694)	**Myx FTA** V1960, A1920 + radio FTA
	CCTV Mux	3829/1321H	up to 4 + 1 radio	3/4	13(.240)	PowVu FTA, replaces PAS-2 svc
	TVBS-N	3836/1314V	**1FTA**, 4+ CA	3/4	17(.500)	CCTV cross pole; new SR 04-06
	EMTV PNG	3808/1342V	1 + 2 radio	3/4	5(.632)	PowVu CA
	CNNI	3780/1370H	3, up to 5 TV	3/4	25(.000)	PowerVu; some audio **FTA**
	Discovery Asia	3764/1386V	Up to 6 TV	3/4	19(.850)	PowerVu; Asian MUX; new parameters Nov '03
	MTV	3740/1410H	8	2/3	27(.500)	# 8 **MTV China FTA V289, A290;** rest CA
I2/169E	WA Mux Pv	12.281V	3+ TV, radio	2/3	27(.500)	PowVu CA, WIN, ABC NT, SBS; status unknown
	Ariang TV	12.401V	1TV	3/4	4(.400)	Test - may not stay permanently
	ABS-CBN	12.575H	4TV, 2 radio		13(.845)	Temp **FTA**, subs Aust 011-800-2270-0722
	Test mux	12.715H	6+ TV	2/3	30(.000)	initially with 6 NTSC colour bars
	TARBS feeds	4090V/1060V	9TV + radio	3/4	21(.000)	Occ **FTA** (Chile +); BIG power reduction Nov 03
	BBC SCPC	3986/1164H	1TV	1/2	5(.700)	BBC World moved here January 2005
	Middle East	3836/1314V	4 typ	3/4	13(.331)	Subscriptions available; Strong Technology



IN STOCK.
WORLD-WIDE DELIVERY!

DMS International

Trimax SM-1100 Digital Satellite Finder Meter

☐ Handheld with 3.5" TFT LCD display ■ Shows: S/N, C/N, signal strength and quality, signal lock, channel picture/sound - numerical and bar readings + audio tone for signal peaking ☐ User programmed, unique internal calibration software, full user control over satellites, channels - *never* requires factory return for updating! ■ DiSEqC, 22 kHz, 13/18 volts with display ■ Calculates azimuth and elevation, USB port for software upgrades/sharing (cable included) ☐Carry case + neck strap, AC and 12Vdc power chargers included. Reasonably priced. Check http://www.prlog.org/10018580-advanced-alignment-meter-for-installing-satellite-systems.html

http://dmsiusa.com & http://dmswireless.com ◆ Tel ++1-770-529-6800 ◆ Fax ++1-770-529-6840

DMS INTERNATIONAL: World source for DTH, Distributors and Dealers

Av-Comm Pty Ltd

Satellite Television Equipment Specialists

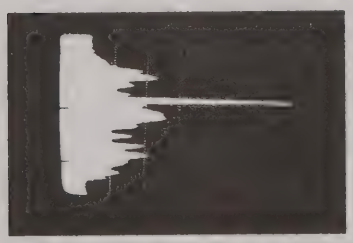
Ph - 02 9939 4377 Fax - 02 9939 4376

Website – http://www.avcomm.com.au

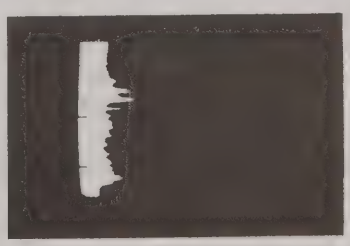
Email – cgarry@avcomm.com.au

Since late 2004 broadband interference in the C-band satellite spectrum has been ever present in the Sydney metropolitan area wiping out an estimated 10,000 C-band viewers as well as many commercial sites. This interference caused by Unwired Australia has now spread to Melbourne. To fight this interference, Av-Comm has designed a range of products to allow customers to continue using C-band systems.

- IF Filter 950-1450Mhz
- Dual Polarity 3.7 – 4.2Ghz LNB with 3.5Ghz Notch Filter
- Single Polarity PLL 3.7 – 4.2Ghz with 3.5Ghz Notch Filter
- Waveguide Filter 3.7 – 4.2Ghz



Spectrum Showing Unwired



Spectrum After Filtering

As each site that suffers interference is different, there is no one fix for all affected sites but over the past two years we have developed many combinations to give you the best chance of beating this problem. Our commercial solutions have a 100% success rate. If you are experiencing problems caused by interference feel free to call us and we will help find the best solution for you.

Bird	Service	RF/IF & Polarity	# Program Channels	FEC	Msym
(PAS2/169E)	**Adventists.tv**	4040/1010H	1	2/3	5(.900)
	Feeds	3868/1182H	1	2/3	6(.620)
	Feeds	3939/1211H	2 (typ NTSC)	2/3	6(.620)/7(.498)
	Cal PowVu	3901/1249H	up to 8	3/4	30(.800)
	HK bouquet	3850/1300H	up to 8	2/3	24(.900)
	Korean Bqt	3771/1379H	1	3/4	6(.510)
AMC23/172E	**Various-tests**	12.730H	up to 8	3/4	30(.000)
I804/174E	**iPSTAR**	12.619H	1	2/3	25(.220)
	Tests-NZ beam	12.646H	1	3/4	22(.418)
	RFO Poly	4027/1123R	1TV	3/4	4(.566)
I701/180E	TNTV	11.060&11.514V	9	3/4	30(.000)
	TVRFO	11.136V, 11.174V	6+TV, 3+ radio	3/4	23(.149)
	Canal+Sat	11.610H	16TV, 1 radio	3/4	30(.000)
	PBS	12.648HH	16TV possible	3/4	28(.066)
	TVNZ/BBC	4186/964RHC	1	3/4	5(.632)
	TVNZ	4178/972RHC	1	3/4	5(.632)
	AFRTS DTS	4175/975L	3 TV, 3 radio	2/3	3(.680)
	TVNZ/Aptn	4170/980RHC	1	3/4	5(.632)
	Fiji Sky Pacific	4095/1055LHC	6TV + future radio	3/4	16(.505)
	Fiji Sky Pacific	4055/1095LHC	7TV + future radio	3/4	16(.505)
	TVNZ/feeds	4052/1098RHC	1	3/4	5(.632)
	TVNZ feeds	4044/1106R	1	3/4	5(.632)
	NBC to 7 Oz	3960/1190R	1	7/8	6(.447)
	TBN Mux	3927/1223R	4TV	2/3	11.(394)
	WorldNet	3886/1264R	1TV, 37 radio	3/4	25(.000)
	Ioarana	3772/1378L	1	3/4	4(.566)
	NASA TV	3854/1296R	1 TV	3/4	2(.000)
	TVNZ	3846/1304R	1	3/4	5(.632)
	USA feeds	3749/1401R	4?	?	26(.400)
NSS-5/177W	Pacific IP Data	3763/1387R	none-data	3/4	27(.500)
	RFO/Tempo	3920/1230R	1	3/4	2(893)
	Wallis/Futuna	3922/1228L	1		2(.895)
	BYU-TV	4185/965R	1TV, 20+ audio	1/2	6(.525)
	Australia Temp.	12.522V	8 SCPC	7/8 & 5/6	14.294 & **12.600**
	iPSTAR Tests	12.691V	8 TV	5/6	17(.600)

Receivers and Errata
New December 2003; 24/7 "Hope Chs."
FTA (occ sport); also try 3863,Sr6.100
FTA-typ NTSC-occ sport, live Shuttle
PowVu CA + **FTA**(includes BBC-W 05-05)
was 4148Vt; some **FTA**
Korean MUX, reload 12-04; new Sr
Testing on NZ/East Australia beam
Tests, late May start; also 12.646H
Testing possible data links; June 2003
SE spot beam; was 4027LHC
east spot; 10TV + r each, vertical pol.
FTA 11.136 Tahitian beam, 11.174 west beam; 12/04
1+ **FTA**, MediaGd "2"; + 10.975 weaker
Testing Fiji region pay-TV (MDS) package (Oct '04)
DMV/NTL early vers. occ feeds, typ ca
DMV/NTL early vers., occ feeds, typ ca
'DTS Direct to Sailors; audio previously FTA - gone
DMV/NTL early vers. occ feeds, typically ca
Nagravision CA (Feb 1, 2005) New PIDS
All now (including Fiji 1) CA; 7 Feb, 2005)
DMV/NTL early vers.,occ feeds, typ ca
SCPC, mixed CA and **FTA** feeds
CA, Leitch encoded
January 2006-now 4 channels, new Sr
New PIDs Dec 03 very strong NZ, Pacific
FTA SCPC; East Hemi Beam-Tahiti
24/7 live NASA - West Hemi bm (can be difficult!)
SCPC, mixed CA & **FTA**, feeds
16-QAM (not MPEG-2 compatible)
Data only but useful for dish alignment
Wallis & Futuna Island(s) service
Outward bound W & F
Global beam - requires sizeable dish
Aust beam: 12.522, 538,555,574,604,**621,639 & 657**
CA Tests - Taiwan TV; data coming?? (NZ beam)

MPEG-2 DVB Receivers: (Data here believed accurate; we assume no responsibility for correctness!)

AV-COMM R3100. FTA, excellent sensitivity (review SF May 1998); new version Sept. '99. AV-COMM P/L, 61-2-9939-4377.
AV-COMM Tiny Tot. FTA, 12Vdc operated, palm sized, low power consumption; review SF#120. Contact # above.
Coship 3188C. Review SF#107. Blind search FTA rcvr; works well. Phoenix Technology Group (www.phoenixsatellite.com.au) (Irdeto 2 as well as FTA versions)
Coship FTA, CA, HDD. Review SF#143, state of art functions, blind search. Phoenix (above), Satlink NZ, fax 64-9-814-9447;
Divitone: "Left-handed" review SF#115; does "code key" entry. Available http://www.satmax.ws
eMTech eM-100B (FTA), eM-200B (FTA + Clx2), eM210B (FTA + 2xCI + positioner); KanSat 61-7-5484 6246 (review SF#89)
eM-150/Homecast. FTA + embedded multi-format, review SF#144. Sciteq (61-8-9409-6677) and Kristal (61-7-4728 7704)
Fortec Star Lifetime. Two versions, both blind search, code-key programmable, one X 2 CI. Review SF#119. www.aDigitaLife.com
Homecast (em-150, eM-1150, eM-2150) series of FTA, CA, HDD sate of art STBs, review SF#144. Sciteq (www.sciteq.com.au)
Humax ICRI 5400 (Z). Embedded Irdeto + 2 CAM slots; initial units had NTSC glitch, now fixed. Widely available; new software avail 04-04, SF#76.
Humax IRCI 5410 (Z). Adaptable version capable of holding multi-CA systems (SF#98, 99). Widely available; original importer Sciteq (www.sciteq.com.au).
Hyundai-TV/COM. HSS100B/G (Pacific), HSS-100C (China) FTA. Different software versions; 2.26/2.27 good performers, 3.11 and those with Nokia tuners also good; later 5.0 not good.
Hyundai HSS700. FTA, PowerVu, SCPC/MCPC. Review SF March 1999. Kristal Electronics, 61-7-4788-8902.
Hyundai HSS800CI. FTA, Irdeto (with CAM) + other CA systems, PowerVu, NTSC. Kristal Electronics, above; review SF#63.
INNOVIA IDS3088. Review SF#111. Blind search FTA receiver. High quality IRD; available Phoenix TechnologyGroup, and Satmax (http://www.satmax.ws).
ID Digital CI-24 Sensor. New August 2003; new lower noise tuner, extra sensitivity; CI Interface slot Irdeto 1 & 2; review SF#109. Sciteq 61-8-9409-6677.
KSF-570 FTA digital receiver, import; KSC-570 adds CI x 2 (no test or user results available). Asoft Limited, 64-4-234-1096
KSC-N550H2 'Premium Dual DVR' digital receiver (no test or user results available). Asoft Limited, 64 4 234 1096
MediaStar D7.5. New (May 00) single chip FTA; review June 2000 SF. MediaStar Comm. Int. 61-2-9618-5777 (www.mediastar.com.au)
MediaStar D10. FTA and Irdeto embedded CA. VG receiver; see review SF#96, August 2002. Contacts immediately above.
MultiChoice (UEC) 660. Essentially same as Australian 660, not grey market contrary to reports. Sciteq tel 61-8-9306-3738
Nokia "d-box" (V1.7X). European, FTA, may only be German language, capable of Dr. Overflow software. SF#95, p. 14.
Nokia 9200/9500. When equipped with proper software, does Aurora, originally did pay-TV services provided software has been "patched" with "Sandra" or similar program. See SF#95, p. 14, SF#96 p. 15. SatWorld 61-3-9773-9270 (www.satworld.com.au)
Pace DGT400/DVR500. Originally Galaxy (Now Foxtel+Austar). Irdeto, some FTA with difficulty (Foxtel Australia 1300-360818). UECs replaced.
Pace "Worldbox" (DSR-620 in NZ). Non-DVB compliant NDS CA including Sky NZ, no FTA; similar "Zenith" version (see SF#115, p. 15).
Phoenix 111, 222, 333 models (no longer produced): Service, backup - Phoenix Technology Group 61 3 9553 3399; www.phoenixsatellite.com.au
Pioneer TS4. Mediaguard CA (no FTA), embedded Msym, FEC, only for Canal+Satellite (AntenneCal ++687-43.81.56)
PowerVu (D9223, 9225, 9234). Non-DVB compliant MPEG-2 unless loaded with software through ESPN Boot Loader (see below). Primarily sold for proprietary CA (NHK, CMT etc). For service only - call Scientific Atlanta 61-2-9452-3388. For revision model D9850, see Scientific Atlanta (below).
Prosat 2102S. FTA SCPC/MCPC, NTSC/PAL, SCART + RCA. Sciteq 61-8-9306-3738.
SatCruiser DSR-101. FTA SCPC/MCPC, PowVu, NTSC/PAL. (Skyvision Australia 61-3-9888-7491, Telsat 64-6-356-2749); no longer available.)
SatCruiser DSR-201P. FTA SCPC/MCPC, PowVu, NTSC/PAL, analogue, positioner - (Skyvision - see above); no longer available.
SATWORK ST3618. Blind search FTA receiver. Fast search, problems, especially in "memory-filing" system; review SF#111. Available DMSi at tim@dmsiusa.com.
SATWORK ST3688. Blind search, 3000+ ch memory, multi-format RF modulator; improved version 3618. Review SF#113; available DMSi (above).
Scientific Atlanta D9223, D9234, D9225; Orig. PowerVu, superceded Dec 2003 by D9850. Commercial receiver, available TVO 61-2-9281-4481, John Martin
Strong Technologies SRT2620. SCPC, MCPC FTA, exc sensitivity, ease use, programming. Review SF#91 (ph. below).
Strong SRT 4600. SCPC, MCPC, PowerVu; exc graphics, ease of use, review SF#64. Strong Technologies 61-3-8795-7990.
Strong SRT 4654X, New mid 2007, Conax + Irdeto CA; review SF#156. Receiver is state of art, above average sensitivity. Strong Technologies 61-3-8795-7990.
Strong 4800. SCPC, MCPC, embedded Irdeto+ CAM slots, does code-key with additional software, Aurora. Strong Technologies 61-3-8795-7990.
Strong 4800 II. SCPC, MCPC CAM slots x 2 for Aurora +, Zee, Canal +, code key with additional software. Strong Technologies (above); review SF#103.
Strong 4890. SCPC, MCPC, 30Gb PVR, 2 CAM slots, DiSEqC 1.0, 1.2 (review SF#84), does code key with additional software; Strong Technologies, # above.
UEC Atlas/Titan (1000). New July 2003, replacing DGT400 for Austar. No SCART, L-band loop; also available Rural Electronics 61-2-6361 3636.
UEC642. Designed for Aurora (Irdeto), approved by Optus; w/new software, C-band FTA; faulty P/S. Norsat 61-8-9451-8300.
UEC660. Upgraded UEC642, used by Sky Racing Aust., Foxtel,limited FTA. (Nationwide - 61-7-3252-2947); P/S problems.
UEC700/720. Single chip Irdeto built-in design for Foxtel; unfriendly for FTA. Power supply problems, seldom sold to consumers; propensity to fall off back of trucks.
"X" Digital. When modified with "aftermarket" Internet softwre, does Aurora and other V-1 CA without card; review SF#119. Strong Technologies (61-3-8795-7990).
Zinwell ZMX-7500. Approved NZ Freeview, through authorised dealers; review SF#150; some unresolved technical issues as of June 2007.

Accessories:

Aurora smart cards. MCRYPT (Irdeto V2) cards now available (Jan 2005), Sciteq 61-8-9409-6677.
PowerVu Software Upgrade: PAS-8, 4020/1130Hz, Sr 26.470, 3/4; pgm ch 11 and follow instructions (do not leave early!)
PowerVu (Pacific) **repair service**: Cable & Sat Svcs, Darius West, 61-2-9792-1421 (Email darius@cases.net.au)

WITH THE OBSERVERS

AT PRESS DEADLINE

Rumour time: A new Russian satellite is scheduled for 140E (or - perhaps it is already there) planning to test a 11GHz (no exact frequency here known) beam boresighted on Tasmania with 49>52 dBw possible into NZ 'off to side'. Well, you have been warned

Satellite Launches: Australia's D2 to 156E as replacement for B3 remains listed with September 21 (22nd here) on some web sites (such as Lyngsat); see page 4 here for commentary. JCSAT 11, to be an in-flight spare, never made even low earth orbit; major screw-up with Proton-M launch phase September 6. This was the first (and perhaps last for a while) Russian contract to launch a Japanese satellite vehicle.

AsiaSat 3S/105.5E: "Pakistan's TVOne and Waseb TV are now on 3786H (were 3647V), SR 5.700, 3/4." (**Manny**)

AsiaSat 4/122E: "Did not last long (SF#156); WIN and ABC Northern have gone now from 12.636V." (**Kenneth**)

Chinasat 6B/115.5E: "CCTV4 and 9 remain FTA but the remainder on CDM muxes (3980V, 4020V, 4100V) are now encrypted." (**John**) (Editor's note: OOPS! Perhaps 6B is not going to be such a great source for Chinese speaking folks as we hoped (this issue- p. 7). "BTV10 has appeared on 3951V, FTA (SR 9.529)." (**Claudia**) "Henan DTV and Reality Channel (4140V) now encrypted; Top V Muxes (3600V and 3640V) are using Mediaguard, SR 27.500 and 7/8 - OOPS." (**David**)

Intelsat-Pas8/166E: "Kapamilya TV is no longer available on 3880V." (**Tony**) "DZMM Teleradyo has begun on 3880V. (**Able TV**)

Optus B3/152E: "T5/12.525V (SR 30.000, 2/3) Globecast Deepam TV (V2360, A2320) has been on and off since mid-August; currently static data rate (0.6 MBit/s) and CA but was FTA for a week at end of August. T13/12.563H (SR30.000, 2/3) has added a second 'Setanta Sports Channel' (V2360, A2320) with FTA colour bar much of the time, previously a spare channel. Globecast has relabelled adhoc spares here to 'APEC 1' (V2160, A2120) and 'APEC 2' (V2260, A2220) for news feeds (FTA at press-time) of leader conference - likely gone and relabelled by the time you read this!" (**IF**, Qld.) "UBI updates - the four Turkish channels previously available (T14L/12.613H [SR22.500, 3/4] are now gone. Show TV (V515, A643) is relabelled 'Ch 62' with several pages of Turkish text explaining why the channels are gone. 'LIG' has been relabelled 'Ch 66' (V517, A645) with the same text. 'PTRK' (V518, A646) has new Turkish music channel while on T11U/12.452H (SR22.500, 3/4) 'KAN7' has replaced prior 'TMAX' (V516, A644)." (**AI**, NSW) "M

Optus C1/156E: "Aurora sometimes baffles - 'what are they thinking?' would be apt. T10U/12.728V (SR24.450, 1/2) ABC SE video (only) PID has changed to V102 (was 768), A769, Text 770. Those without auto-PID receivers will need to reload the service. T3/12.407V (SR30.000, 2/3) 'Info 156E', the 11 rotating pages are frozen on a single page very often - and, the special 'Optus Broadband Satellite' offer which 'expires 30th June 2007' is still being displayed. On T2/12.367V (SR 27.800, 3/4) the label for V1081, A1082 changed from 'spare' to 'NITV' - possibly same indigenous service as on Aurora 12.527V (SR30.000, 3/4). Another new CA channel (V1071, A1072) remains labelled 'spare'." (**IF**, Qld) "Network Ten on Foxtel: Now 3 channels through Foxtel,

Freeview's non-counted channel of service consists of a number (perhaps 6) CCTV cameras variously positioned (including Hamilton); a handy way to know what the weather is doing in Auckland. Including when it rains (below)!

WITH THE OBSERVERS: Reports of new programmers, changes in established programming sources are encouraged from readers throughout the Pacific and Asian regions. Information shared here is an important tool in our ever expanding satellite TV universe. **Photos of yourself, your equipment** or off-air photos taken from your TV screen **are welcomed**. TV screen photos: If PAL or SECAM, set camera to f3.5-f5 at 1/15th second with ASA 100 film; for NTSC, change shutter speed to 1/30th. Use no flash, set camera on tripod or hold steady. Alternately submit any VHS speed, format reception directly to SatFACTS and we will photograph for you. Deadline for October 15th issue: October 4th by mail or 5PM NZT October 5th if by fax to 64-9-406-1083 or Email skyking@clear.net.nz.

late in August (12.398H and 12.598H; CA), labels on all were modified removing reference as to location each channel originates. The content is often different from each, most likely the Foxtel subscriber only gains access to the single service they are nearest to (Brisbane (12.598, SR 27.800, 3/4: V1081, A1082), Sydney (12.398H, SR27.800, V1071, A1072), and Melbourne (12.598H, SR27.800, 3/4 V1071, A1072)." (**IF**, Qld.)

Optus D1/160E: "V8 feeds previously on 12.660 (SR 6.670, 3/4) now on 12.670V dual beam feed (Australia and NZ)." **(Craig S.)**

Palapa C2M/113E: "Another possible source for Korean KBS World - 3838V, FTA, SR 2.100. **(Peter)**

Sinosat 3/125E: Editor's note: Many new services here, strangely most if not all appear to be horizontal side (only). What are reports from Australia or NZ on this one?

Soapbox:

"The battle for urban and rural satellite subscribers continues here; Austar's latest TV ad offers the first month's service for $10 including clips of various shows (Winston Churchill from The History Channel is especially catchy!); SelecTV print ads continue to offer 22 channels for $29.95 (per month) but their 'Real Madrid' (English sport) has now been replaced with 'Weather Zone'. Their lack of sport must be a continuing problem for their marketing department." (**IF**, Qld.) "You have been writing about mobile/cell phone coverage and the expectation that two even higher frequency bands (12.4 and 5.8 GHz) will turn out to be much poorer in coverage than the planners are optimistically announcing. Here's the real world. Telstra's NextG' network is advertised as 'covering 98% of Australia's population'. On visits around NSW I find many-many sizeable holes where no service exists from 'NextG' while in fact CDMA still seems to work. The Government is considering legislation to mandate Telstra retain CDMA site and system operation until in fact they have achieved at least 1 for 1 equivalent coverage with NextG and CDMA. Out in the western areas from Sydney, Orange has recently added two brand new tower sites and nearby Lithgow has a pair of new sites under construction. CDMA is presently scheduled to switch off 'in early 2008'." **(Raymond)** "This is a warning to those who are installing satellite TV systems into caravans. Some of the newer STBs use a 12Vdc wall supply and the STB itself has no actual transformer (the Strong 4654X is an example of a 12V powered receiver that DOES have an internal transformer). A non-isolated design STB could lead to a potential fire hazard. With the STB connected to the same caravan 12V DC supply as a TV set (also running on 12V dc), and then a RCA A-V cable or RF (modulator) cable connecting the two together, a problem occurs. It is highly likely the TV set is not isolated and this would place negative 12V on both the STB chassis and the TV set chassis. If either the STB or TV set develop a poor connection at the point where each (negative side) joins into the caravan's 12V supply, a couple of amps of current will surge through the shield of the AV cable(s) or RF modulator link cable. Neither of these cables were designed to carry several amps of current for very long and if the surge sustains the cables will melt. The safe approach is to provide a complete DC disengage switch for both the TV and the STB - merely shutting down (as in 'standby' with the remote) either will not stop the current flow

www.skylight.net.cn
SKYLIGHT
HUADONG DIGITAL
TECHNOLOGY CO.,LTD
High Definition Terrestrial Receiver
DW-3810T
4000
DW-3810T
- Fully DVB-T compliant
- MPEG-2 HD/SD decoding (MP@HL,ML)
- YPbPr (VGA),DVI & DVI-plus Digital Output: 1080i/720p/576p
- Digital Audio Spdif Optical output
- HD and SD Video Converting
- All Video output in Same time
- Teletext (VBI & OSD output)
- Subtitle (OSD output)
- Aspect ratio: Narrow/Wide/Full
- Dolby 5.1 channel or PCM digital audio output
- Electronic program guide (EPG)
- Parental guidance
- 32 bits true color on screen display (OSD)
JINAN(H.Q)ADD:
3/F UNIT 1,NO.750 XINYU ROAD. HI-TECH DEVELOPMENT ZONE.JINAN 250101. SHANDONG.P.R.CHINA
TEL:0086 531 88888699 FAX:0086 531 88873550 Http://www.skylight.net.cn
SHENZHEN SALE OFFICE:TEL:0086 755 25333296 FAX:0086 755 25333293 E-mail:sales@skylight.net.cn

These firms are available to do contract dish installs

Fiji Islands

C.B. Communications, **Sigatoka** (Ph6520227; cbcom@connect.com.fj)
Safeway Electronics Ltd, **Suva + Lautoka + all islands** (Ph 3395300/6666822; safeway@connect.com.fj)
SATSHEK Communications, **Suva** (Ph3307933; parmarbros@connect.com.fj)

New Zealand:

Tauranga TV Svcs Ltd, western **Bay of Plenty** (ethnic Ku packages) (Ph 07 578 7276; dave-tts@clear.net.nz)
Raycom, **Coromandel Peninsula/Waihi/Tairua** (B1 FTA) (Ph 07 864 8083; raycom@slingshot.co.nz)
Frontline Electronics, **Mosgiel** region (ethnic Ku packages) (Ph 03 489 4001)
Advanced Aerials, **Napier/Hawkes Bay**, comcls (Ph06835 6618/021 272 6618; advanceaerials@xtra.co.nz)
Nelson TV & Video Svcs, all **Nelson Bays** (Ph 03 548 0304; ntv@tasman.net)
Rexels AV Electronics Ltd, **Palmerston N, Manawatu, Hawke's Bay, Wanganui** (Ph 06 357 6186; rxl@xtra/co.nz)
John Stewart, **southland** including Otago (john.s@tritec.co.nz)
The Antenna Man, **Taranaki** (Ph 06 758 1633; antenna.man@xtra.co.nz)
Quality Pics, entire **Waikaito** region (Ph 0800 007 667; maxnkay@xtra.co.nz)
Smartzone, **Wellington-Wairarapa-Palmerston N** (C+Ku) (Ph 029 289 6333; info@smartzonesystems.co.nz)
Homestead HiTech, **Wellington, Masteron-Levin** (PAS-2, B1, B3) fitzgera@ihug.co.nz)
Waipu Cable Television, **Wellsford to North Cape** (*Bluekiss*), (Ph 09 4320 973; waipucable@xtra.co.nz)

Australia Wide

Regional Outcomes (60+ locations, **all states, territories**) (03 9923 7333; installs@regionaloutcomes.com.au)

New South Wales:

Woolgoola Antenna Service, **Coffs Harbour** (50km radius) (Ph 0266561889; woopaerials@iprimus.com.au)
Town & Country Antennas, 60km radius **Murwillumba/Tweeds Heads** (Ph 02 6672 8595)
Newcastle Satellite, **Newcastle + Lwr Hunter Vly** (Ph 0249614449; satellites@netcentral.com.au)
Home Satellite TV, 40km radius **Port Macquarie** (Ph 02 6584 3838; kazbah25@optusnet.com.au)
Goodcom Communications P/L, 100km radius of **Walcha** (Ph 02 6777 1044; goodcom@northnet.com.au)

Northern Territory

ALLSAT TV, **Darwin and NT**; (Ph 041 863 3720; allsat.tv@pacific.net.au)

Queensland:

Cape York Electronics, **Cooktown and "the cape"** (started 1970s) (Ph 07 40 695 252; cyectn@tpg.com.au)
Phil's Antenna Systems, 100km radius of **Hervey Bay** (C+Ku since 1996). (Ph 0741 256 273)
Rick Dalton TV & Satellite, 100km of **Kawana Waters** (C + Ku). (Ph 07 5493 4343; rick@antechtv.com.au)
Teleworks, 100km of **Cairns** (C + Ku). (Ph 0412 84115; rajvrm@aol.com)
Videotronics Mackay, **Mackay/Whitsundays** radius 200km. (Ph 07 495 575 052; sales@videotronics.com.au)

South Australia

Central Eyre Comms, **Arno Bay-Eyre Penins.** (Ph 08 8628 0203; centraleyrecomms@ozemail.com.au)

Tasmania:

.65 Electronics, **Launceston and Northern Tasmania** (Ph 03 63 330820; sales@65group.com)

Victoria:

Riviera Satellite Antenna Svcs, 100km radius **Bairnsdale** (Ph 03 5152 4884; gilhooleystv@net-tech.com.au)
Leden Communications, (100km radius) **Glengarry** (Ph 0427 745105; leden@netspace.net.au)
Geoff's Communications, 60km radius **Korumburra** (Ph 0408 582010; gwyhoon@tpg.com.au)
Foreign Satellite TVP/L, **Melbourne (region)** C+Ku since 1995 (Ph 040445509; joe12@dodo.com.au)

Solomon Islands

Satellite Solutions, **Honiara + all Solomon Islands** (since 1994) (Ph 677 25589, satsol@solomon.com.sb)

Thailand:

JSAT tv/Jon Clarke, **ex-pat community - nationwide** (Ph +661 513 5418; info@jsat.tv)

To be listed here, tell us: 1/name of your business or your name, 2/ your home town and radius-distance covered from same, 3/ your telco, 4/ your e-mail. Send to skyking@clear.net.nz, or fax to ++64 9 406 1083 or mail to SatFACTS, PO Box 330, Mangonui, Far North, NZ. No, there is *no charge* to be listed **but** you must be a SatFACTS subscriber! (* - NEW or modified this month.)

and load. A fire could easily follow and if people are inside sleeping - well, you work it out (or if the caravan is unattended, the returning residents could find a pile of cinders where it once stood)." (**AI,** Nsw) "FREE TV CHANNELS reads the advertisement from TPG TV, a broadband service provider. It goes on to claim, 'No satellite dish or set top box needed; No set-up cost; TPG ADSL2+ modems are IPTV configured'. The selection of 'free' channels is quite competitive - or will be when 'coming soon' works out. The present list includes AlJazeera, CubaVision, TV Monde, Channel News Asia, Indonesian TV (no specific channel mentioned), Bloomberg Television, SCTV, Chinese TV (no specific channel), Malaysian TV (no specific channel). DW, VOA, TVE, Greek TV (no specific channel), Saudi TV (no specific channel), TRT, World Fashion, Hungarian TV (no specific channel) and then four 'coming soon' - Playboy, Adult, Sports and Movies. Internet Protocol Television is indeed happening!" (**NS**, Victoria) "Mobile TV is becoming more and more alluring provided you don't mind watching with the 2" screen pasted to your nose. Big Pond TV ('TV on Demand') advertising states, 'Now you don't need a TV to watch your favourite shows. With Big Pond TV on your Telstra mobile

Fiji's P.B.S Ku - Auckland

Observer Francis Kosmalski using a 3.7m (AMS) solid dish, 0.7 dB noise figure (prime focus to match the dish) LNB and various receivers (including Nokia) reports results with Fiji-boresighted PBS bouquet (12.648H, Sr28.066, 3/4). He has reception from most of the Fiji/New Caledonia muxes with RFO (11.174V) the strongest, Canal Sat/Canal + (11.610H, 10.975H) next strongest and as recently discovered after trimming a neighbour's tree (!!!), PBS. Francis has been receiving and reporting relevant signal levels to Canal + for several years as an assist to their monitoring the stability of I701 (180E-W) - something only possible at the edge of the coverage region where small bird pointing errors become much more quickly noticed. Seasonal levels are several dB hotter in NZ summer than during winter; a 'tradition' now many years of observation confirmed. PBS, the weakest of those available to him, presently appears (locks) around 10PM and stays more or less glitch free (subject to rainy weather) until as late as 7AM. Canal Sat/Canal + and RFO are essentially glitch free 24 x 7 the majority of the year except during moderate + rain. Francis enjoys the use of an access card supplied for his services by Canal but standard subscription cards are nearest-available in Fiji. A 3.7m dish, Gardiner (brand) 0.7 dB noise figure LNB (dual LO frequency) are not standard off-shelf devices; this is *not* a project for the casual observer.

you can watch selected shows such as South Park, The Chaser, Punk'd, SpongBob SquarePants and hit Made for Mobile Australian show Big 5 by Hamish and Andy. To watch, click on BigPond on your Telstra mobile and go to Big Pond TV. And if that was not enough TV access for you, here is the take from Virgin Blue (airline): 'Virgin Blue leaves the choices up to you, so you can get what you want out of every flight. Check-in from home, enjoy 24 Foxtel channels live2air ...' We are becoming a nation of TV fanatics!" (**Craig Taylor**, Sydney) "If you think Australia is addicted to television, consider the latest craze in America: Gas Station TV. While you are standing there pumping US$3 per gallon high test into the 40 gallon tank of your RV or SUV, now a 21" 'special design' LCD screen stares at you with programming from ESPN or the American ABC network - peppered with visual inserts promoting other products located at the facility where you are standing watching the dollars roll around. Satellite, Ku of course, soon to be at more than a million petrol pumps coast-to-coast!" (**Roger W.**, Chicago) "TelstraClear InHome TV subscribers now can view SKY TV channels and from October 15 new channels but only in portions of Christchurch, Kapiti, and Wellington." (**Bill**) "Fox Sports (Australia) is now offering web-streamed live coverage of complete English Premier League (football) matches; not available through Foxtel cable or satellite. One week passes are (A)$7.95, $23.95 by the month and $89.95 for the season." (**Jerome**) "I received an unsolicited FAX promotion headlined, 'Poor Television Reception?' going on to offer, 'We guarantee one of the options will give you crystal clear television picture - on your ordinary TV'. The offer goes on to detail 'High gain antenna and booster' ($190 to $690), 'Digital TV STB' ($150 -$330) or 'Satellite TV' ($1,200 with reception from ABC, SBS, 7 Central, Imparja, WIN and more than 20 FM channels). Firm claims 'more than 25 years experience in weak signal receiving here and abroad.' So what happened to GWN?" (**Terry M**) "Tonga residents will pay $691 for the installation of a 1m region C-band dish and $85 a month to watch the Rugby World Cup (now underway) through the local agent for Sky Fiji. Not to worry - Radio Tonga will be broadcasting live coverage for many of the games." (**Sir Adam**) "Fiji's government has approved new licenses for television broadcasting and Channel 2 Fiji Limited plans to be on the air by Christmas at least in Suva." (**Henry**) "Hanaro Telecom (Korea) now has 500,000 monthly pay customers for its on-demand video service that includes movies. The basic fee is around $10 a month with a growing library (currently in excess of 20,000) programs to select from on the hand-held nose pressing 2.4" LCD screen; on-demand movies and other more valuable events cost extra. The average customer reportedly is downloading 160 hours (that is 6.7 days worth!) per month of IPTV with 35% of these selecting 3 movies each month." (**Jung**) "America's take-up of HD capable broadband net service (VDSL2 as named by some suppliers) with fibre directly into each home is growing at a rate of 30% per year and is forecast to reach into 35 million residences by 2010." (**Sammy L**, Los Angeles) "Follow the money: Research shows the time people spend watching broadcast TV and reading newspapers has fallen by 6.3% world-wide since 2001 while the time spent with advertising supported net services has gone up by 20%." (**Willard**) "New Zealand's Defense Force (yes - there is one) has reversed a commitment to help fund a Russian built satellite planned for 2010 launch to 158 degrees east. A NZ group, NZLSAT, had talked the Defense folks into paying $20m a year for a transponder on the satellite for 5 years; $100m total." (**Phil**)

INSTALLING AURORA KITS?

Buy your kits from the people who have been solving television reception problems for over 40 years;
useful technical advice available!

The deal

- Genuine Optus approved UEC Model 910 IRD packed with 4 page out-of-area reception application
- LNB
- Optus Approved smartcard
- Includes report signal level calculator
- 90cm quality dish

All for $428 plus GST and freight (90cm dish shipped, enclosed, in a strong cardboard box).

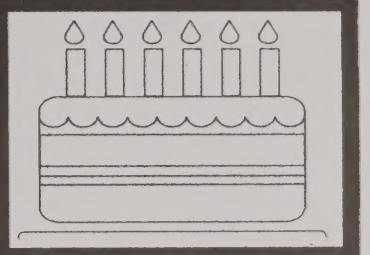
Trade installers, only, from:

RURAL ELECTRONIC PRODUCTS

"*The Better Reception Centre*"
315 Summer Street Orange NSW 2800
Phone (02) 6361 3636

Happy Birthday SatFACTS.

Two for price of ONE!



SatFACTS Anthology
(the issues 1 - 156 - DVD & CD)
AND
Television's Pirates
(the 928 page international best-seller)

TWO FOR ONE - TIME LIMITED OFFER

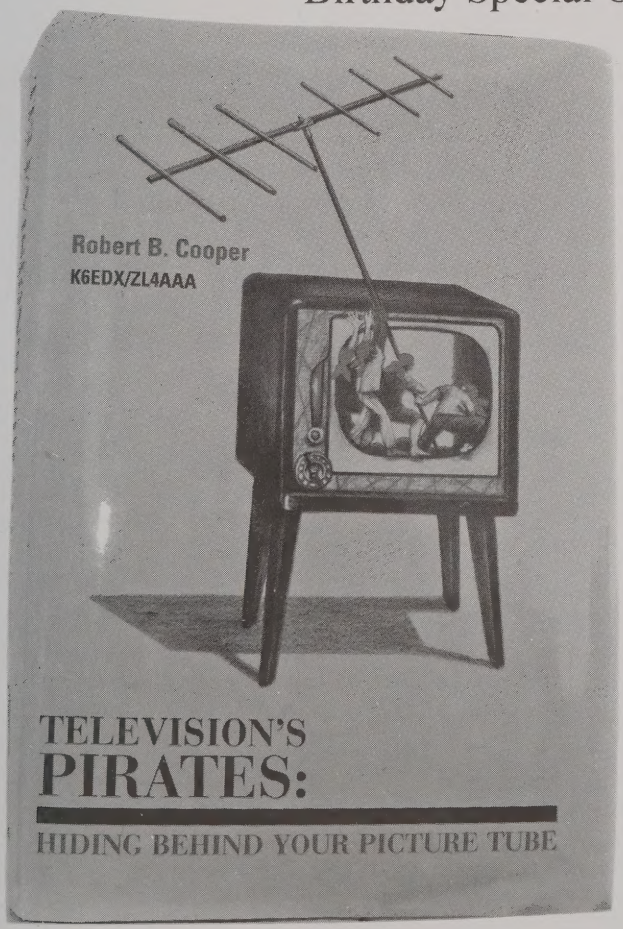
US$30 postage paid inside USA

Aus $35 plus postage from NZ

NZ$40 postage paid inside NZ

Our two BEST sellers - EACH normally $30/40 - now combined for a limited time and supply (*); like getting one as a FREE bonus!

* - **This offer expires October 10, 2007** - OR when our limited supply of TELEVISION's PIRATES is exhausted - whichever occurs first. This Birthday Special Offer will NEVER be repeated!



IMAGINE! The first 13 years of SatFACTS on DVD + CD **and** the world-wide best seller TELEVISION's PIRATES: over.

➢ 13 COMPLETE YEARS of SatFACTS on DVD + CD
(issues #1 - 156)

➢ World-wide best seller "Television's Pirates"
("Your world as you never knew it")
From MadMax and Rupert Murdoch
to the wild code busting Canadians -
50 years of piracy!

LIMITED OFFER
BOTH
for the price of one!

---

www.bobcooper.tv

"*This is the world's best, most detailed and helpful website for those who need to learn how to improve television reception.*" (Anthony Jarris, Chicago)

New material including new 'Classic Video' each month around the 20th.

And, this is the order form - TWO for ONE limited time SPECIAL!

☐ **SatFACTS 12 month subscription**: NZ$70, A$96, US/World US$75; fast-post airmail.

☐ **SPECIAL PACKAGE:** SatFACTS DVD/CD issues 1-156 plus "TELEVISION's PIRATES" book (US$30 post-paid in USA; NZ$40 post-paid in NZ; Australia $35 + postage from NZ; expires Oct. 10)

☐ **SatFACTS Anthology issues 1 - 156**; US$40, A$50, NZ$50 + postage *(look one ahead of this!)*

☐ **"Television's Pirates: Hiding behind your picture tube"** - 928 pages, a massive read! US$30, A$37 + postage, NZ$41 + postage (*look 2 ahead of this!*)

☐ **"C-Band Remembered"** (229 pages, pioneer reflections of 1976-1986) US$20, A$30, NZ$34 + post

☐ **CATJ-Coop's Satellite Digest Collection** - 1974 to 1987 on DVD; thousands of pages, history as it happened. US$/A$/NZ$25 + postage.

Ship to:

Name _____ Company _____

Mailing address _____

Town/city _____ Postal code _____ State/province _____ Country _____

Charge to:

❑ VISA ❑ Mastercard ___ ___ ___ ___ - ___ ___ ___ ___ - ___ ___ ___ ___ - ___ ___ ___ ___

Card expires ____/____ Name as appears on card _____

☐ Cheque/check enclosed (to SatFACTS) in amount of (calculate from above) $ _____

Placing order:

Fax this page to +64 9 406 1083, Email to skyking@clear.net.nz or by mail to
SatFACTS, PO Box 330, Mangonui, Far North 0442, New Zealand

MEDIASTAR
DW820PVR

120GB Hard Disc Drive

FREE
SelecTV card
when you buy a
DW820PVR
(Conditions apply)

Universal Multi Device
Remote Control

Power. Simplicity. Quality.

Features:

- Satellite (QPSK) and Terrestrial (COFDM) tuners
- 2 slots common interface compatible with Irdeto, Viaccess, MediaGuard and Conax Cams
- Direct YCbCr component, S-Video, Composite and Dual Audio outputs
- MP3, PCM playback
- MP Layer I & II, CD Quality Audio Sound
- RS-232 Port for S/W upgrade (115,200bps)
- Connect to PC via USB 2.0
- Watch two live streams or 1 playback & 1 channel live stream
- Multichannel recording with 1 channel playback
- Parental Control
- Powerful, easy edit function
- Games: Tetris, Block Out & Sokoban
- Picture in Graphics
- On Screen Channel Information
- Auto & Manual Search functions
- User Friendly
- Parental lock function
- Teletext & subtitle supported
- Channel editor & channel loader in PC environment
- Software transfer from receiver to receiver
- 40-event timer control
- Coaxial & Optical outputs for digital audio
- Universal multi device remote control

- Available from Harvey Norman.

For more information visit **mediastar.com.au** or call **02 9618 5777**

SCITEQ
Pty Ltd A.B.N 34 009 235 090

Ph: +61 8 9409 6677
Fax: +61 8 9309 5210
sales@sciteq.com.au
www.sciteq.com.au